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ABSTRACT

The purpose of this monograph is to assist project personnel in improving and measuring the effectiveness of vocational education demonstration projects. The first of four chapters discusses how the monograph is organized and why and how it was developed. Chapter 2 presents an evaluation model containing criteria, standards, and documentation required for presenting evidence of project effectiveness. Chapter 3 discusses the roles of various individuals in improving project effectiveness and in collecting the documentation specified in the evaluation model. Within chapter 3 the demonstration project is divided into a pre-grant period for needs assessment and proposal development; a grant period for project start-up, implementation, and dissemination; and a post-grant period for collection of evidence of impact and utilization. Within each of these periods, the roles of planners, implementers, evaluators, disseminators, and monitors in improving effectiveness are discussed. Following chapter 3, a summary and a list of references are presented. Appended material includes a glossary and a set of proposal review criteria which may be used by funding agencies in reviewing demonstration project proposals.
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VOCATIONAL EDUCATION DEMONSTRATIONS:
MEASURING IMPACT AND IMPROVING EFFECTIVENESS

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CHAPTER I

INTRODUCTION

PURPOSE OF THE MONOGRAPH

The purpose of this monograph is to assist in improving and measuring the effectiveness of vocational education demonstration projects. The monograph is directed at project planners, implementers, disseminators, internal and third-party evaluators, and funding agency monitors. It is hoped that this document will help each of these groups to:

- Assess and improve procedures being used to plan, implement, evaluate, and monitor demonstration projects in order to improve their ability to document improvements in classrooms and other learning situations, and to ensure their continuation after external support phases have ended;
- Assess and improve procedures being used to disseminate information about successful projects, to encourage adoption of these projects, and to document any such adoptions which occur; and
- Assess and improve procedures being used to select and fund demonstration projects.

ORGANIZATION OF THE MONOGRAPH

As an aid to readers, this chapter discusses how the monograph is organized and why and how it was developed. Chapter II presents an evaluation model containing criteria, standards, and documentation required for presenting evidence of project effectiveness. The criteria and standards address the question:

"Has the project resulted in improved teaching techniques or curriculum materials which are used in a substantial number of classrooms or other learning institutions within five years of the conclusion of the demonstration grant?"

By applying the criteria and standards and collecting the documentation specified in Chapter II, project implementers, evaluators, and monitors will be able to make decisions concerning continued project funding. They will

also be able to provide information on the impact and utilization of programs to federal, state, and local funding agencies.

Chapter III discusses the roles of various individuals in improving project effectiveness and in collecting the documentation specified in the evaluation model presented in Chapter II. Within Chapter III the demonstration project is divided into a pre-grant period for needs assessment and proposal development; a grant period for project start-up, implementation, and dissemination; and a post-grant period for collection of evidence of impact and utilization. Within each of these periods, the roles of planners, implementers, evaluators, disseminators, and monitors in improving effectiveness are discussed. Paragraphs or sections within the chapter are flagged to call attention to important points for each of these groups. Key statements are also underlined throughout the monograph for additional emphasis. Following Chapter III, a summary and a list of references are presented.

Appendix A contains a glossary of terms which are used in the monograph. Appendix B contains a set of proposal review criteria which may be used by funding agencies in reviewing demonstration project proposals. The review criteria are keyed to the points discussed in the Chapter III as being important accomplishments during the pre-grant period. Finally, Appendix C contains a bibliography arranged by topic area to assist the reader further.

HOW DEMONSTRATIONS FIT INTO OVERALL PROGRAM IMPROVEMENT

The research and development (R&D) - demonstration continuum is a process used by planners for program improvement. During the R&D phase, a new practice such as a new curriculum is developed and is then tried out and evaluated on a limited scale. Demonstration follows R&D and permits the operational evaluation of the practice prior to widespread adoption in order to determine its impact in a number of different settings. Thus, as used in this document, demonstration includes implementation of the practice, evaluation of the practice in terms of its effects on its target population, and dissemination of information about the practice (if evaluation results are positive) to encourage its adoption.

Rivlin and Timpane* and others have emphasized the importance of putting more time and effort into the development of new programs. Demonstrations are a useful mechanism for program improvement because they provide an opportunity for field testing an innovation in a variety of natural settings prior to widespread dissemination and adoption. Without the demonstration phase, the tendency is for planners to move from the R&D phase directly to full implementation. When this is done, the innovation is often taken prematurely from a relatively small scale experimental situation to widespread use. This increases considerably the chance of implementing unproven programs.

HOW DEMONSTRATIONS FIT INTO FEDERAL AND STATE PLANNING

Demonstration projects should be part of a funding agency's overall program improvement plan. As such, several activities at the federal and state levels influence success. They are assessing needs, setting priorities, preparing the RFP, reviewing the proposal, and monitoring the project. Since project level improvement is the major thrust of the monograph, these activities are discussed at the project level throughout this document. However, the funding agency's role in these activities has important ramifications for the eventual success of a project and should not be understated.

In Chapter III, it is suggested that the potential grantee base an intervention on a sound needs assessment. It is further suggested that needs assessment data be routinely collected and stored for purposes of planning. These suggestions are also applicable at the federal and state funding agency level. Establishment of needs may be based on such things as:

- Current and projected labor supply and demand data;
- Unemployment rates by geographical areas and characteristics of the unemployed;

*Rivlin, A. and Timpane, P.M. Planned variation in education: an assessment. In Brookings Institute (Eds.), Planned variation in education: should we give up or try harder. Washington, D.C.: Brookings Institute, 1975.

- Current plans for meeting unemployment needs;
- Needs of special target groups; e.g., the handicapped, limited English-speaking, etc.; and
- Current and projected programs for meeting the needs of special target groups.

Priorities at both the project and funding agency levels should be derived from the needs assessment and provide the framework for a comprehensive plan. At the funding agency level, priorities will address national or state needs, while project level priorities will address either state or local needs, depending on the nature of the intervention. To the extent that it is possible, the local education agency plan and the project should be compatible with the state plan.

Federal and state funding agencies are not only charged with identifying priorities, but are also charged with program development, personnel development, evaluation, dissemination, and allocation of resources. Thus, in preparing RFPs, funding agencies should establish standards that the grantee must meet in order to receive funding. The monograph suggests proposal review criteria in Appendix B and minimum standards for project effectiveness in Chapter II. However, the funding agency should consider raising these criteria and standards to fit specific programmatic needs.

Funding agencies should consider the impact that timing has on the eventual success of a project. The time of year an RFP is issued or a project receives funds is important. Staff must be available to write a proposal and to begin implementation once funding is received. An additional consideration is the length of time a project should be funded. It is suggested that the time frame should be determined by the scope and needs of individual projects.

The program monitor should not only routinely check on progress but should also provide support. In too many cases, the role of the monitor has been to police the project through the review of quarterly reports only. This approach is ineffectual. Rather, the monitor should take an active interest in seeing that the funding agency's investment in the project is successful and that the success is documented.

Formative and summative evaluations provide the information the monitor needs to assess the project's progress and impact. Therefore, the monitor should ensure that the evaluation is being planned and carried out in a technically acceptable manner. Closely related to the evaluation is the necessity for a good recordkeeping system at both the project and funding agency levels so that project process and impact are adequately documented.

Finally, the funding agency should designate several points throughout the life of the project to assess progress. These decision points and assessment criteria should be stated in the RFP so that all parties are aware of them. As discussed towards the end of Chapter III, the continued funding of the project should then depend on the project providing adequate documentation to show that it has met the standards of the assessment criteria in a satisfactory manner.

In conclusion, the success of a demonstration project is dependent, among other things, on its compatibility with a comprehensive plan for program improvement, and the support and cooperation it receives from local, state, and federal agencies.

WHY THE MONOGRAPH WAS DEVELOPED

Despite the use of demonstration projects as a mechanism for encouraging change and improvement in vocational education for about 10 years, few resources are available to assist in documenting and measuring impact. Additionally, according to the General Accounting Office* and a committee of the National Academy of Sciences**, vocational education demonstration projects funded by the U.S. Office of Education have not had documented,

*General Accounting Office. Career education: status and needed improvements. Washington, D.C.: General Accounting Office, Division of Manpower and Welfare, 1976.

**National Academy of Science's Committee on Vocational Education Research and Development. Assessing vocational education research and development, 1976.

widespread impact. Further, the Education Amendments of 1976 call for identifiable benefits to result from the demonstration project effort. Specifically, the amendments require that grants and contracts be made only when the applicant demonstrates a reasonable probability that improved products or practices will result which will be used in a substantial number of classrooms or other learning situations within five years after the termination of the grant award. Thus, this monograph focuses on demonstration projects specifically, and addresses issues of how to achieve improved impact and how to measure and provide acceptable evidence of that impact.

Although the monograph focuses on demonstration projects, there is potential for broader use. A large portion of what is said is appropriate for other types of projects, including research and development. The criteria proposed for assessing impact were designed to be technically sound measures of program effectiveness while the methods for improving impact address the organizational structure and timely interactions of project activities which increase chances of success. Therefore, they are common to the needs of a variety of program types.

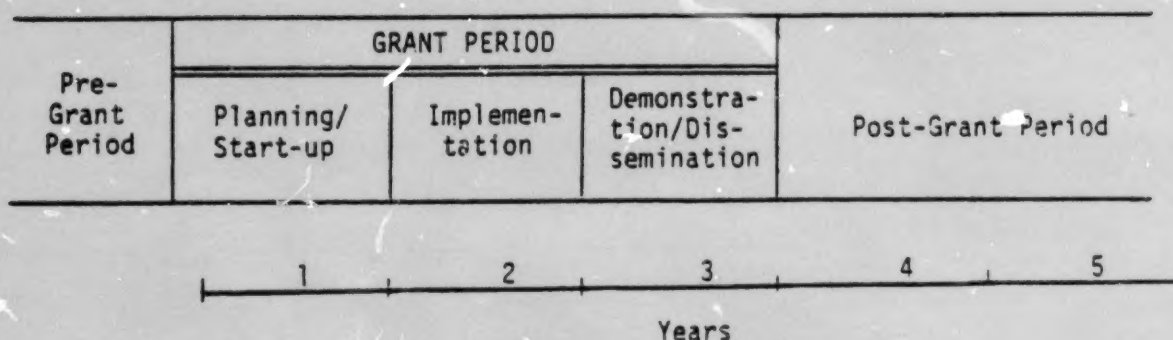
HOW THE MONOGRAPH WAS DEVELOPED

The development of this monograph began with a literature review on the implementation and evaluation of educational innovations. The specific goals of this review were to identify criteria for measuring impact and to identify project characteristics related to success. Following the literature review, drafts of the various monograph components were prepared and case studies of demonstration projects administered by USOE and by state education agencies were developed. The case studies were used to assess the practicality and usefulness of the monograph and provide examples for illustrative purposes. Draft components of the monograph were reviewed at various stages by three advisory panels, each containing representatives of various constituencies in the field of vocational education. Following review by the panels and based on the case studies information, the monograph was revised and finalized.

THE DEMONSTRATION PROJECT MODEL

For purposes of illustrating and discussing the improvement and measurement of the impact of demonstration projects, a three-year demonstration project grant period has been assumed, preceded by a pre-grant period and followed by a post-grant period. (Alternative timing options are discussed later in the monograph.) Exhibit 1 illustrates this model.

EXHIBIT 1
DEMONSTRATION PROJECT PHASING TIMELINE



Pre-Grant Period

The time during which ideas for the project are formally organized. Planning is begun and includes identification of needs, writing and submitting a proposal to the funding agency, and awaiting funds.

Grant Period

The time during which a project receives support from a funding agency, e.g., USOE or a state education agency. This period includes three phases: planning/start-up; implementation; and demonstration/dissemination.

Planning/Start-up: This is the first phase of the grant period. It includes such activities as finalizing plans, hiring staff, acquiring facilities and materials, identifying and recruiting program participants, and putting the program in place.

Implementation: This is the operational phase of the project during which services are delivered to the target population in accordance with the primary objectives of the project.

Demonstration/Dissemination: This phase focuses on the diffusion process when information is disseminated and visitors can observe the project in its own setting for possible replication in other schools or school districts. At this stage, the project should be operating efficiently and effectively, and evaluation data should be available to potential adopters.

Post-Grant Period

The time period following the conclusion of the grant during which project services may be kept up but, in any case, the collection of evaluation data should be continued in order to assess impact.

in the following chapter of the monograph, an evaluation framework for providing evidence of project impact is discussed in relation to the above periods.

CHAPTER II

MEASURING IMPACT

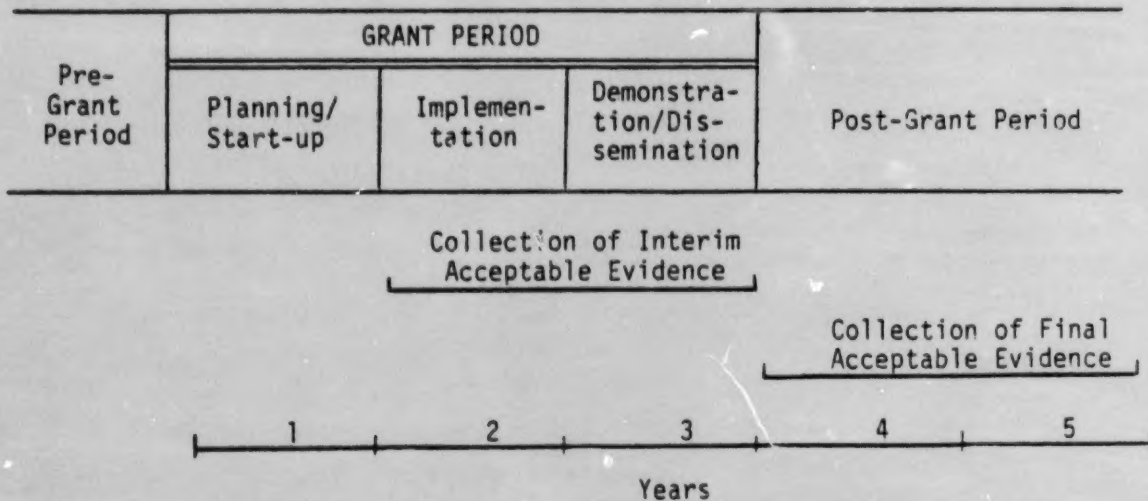
To assess the impact of a vocational education demonstration project, the following question must be addressed: Has the project resulted in improved teaching techniques or curriculum materials which are used in a substantial number of classrooms or other learning situations within five years of the completion of the demonstration grant? To answer this question in the affirmative, we have defined required evidence which must be present. This evidence is divided into two components as follows:

Interim Acceptable Evidence - that evidence of project success which should be expected during the last phases of the grant period; and

Final Acceptable Evidence - that evidence of project impact which should be expected within five years following completion of the grant period.

Exhibit 2 shows the relationships among these evidences and the various project phases. The model in the exhibit assumes a three-year demonstration grant. Alternative timing options will be discussed in a later section.

EXHIBIT 2
RELATIONSHIP BETWEEN PROJECT PHASES AND
ACCEPTABLE EVIDENCE OF PROJECT SUCCESS



Interim and final acceptable evidence of project success are specified by criteria, standards, and required documentation, which are defined as follows:

Criterion - a measure or variable on which judgments of success, excellence, or attainment are based.

Standard - degree, level, or requirement of success, excellence, or attainment.

Documentation - information or data relative to the extent to which a standard has been met.

To illustrate these terms within the context of an educational program, a criterion may be an outcome measure or variable such as the extent to which a student learns a given piece of material. A standard may be a specific score on the test which must be attained by an individual, a mean score attained by a group, or a specific difference in scores between a participant group and a comparison group. Documentation refers to the recording of the test scores.

Due to the diversity of vocational education demonstration projects along a number of variables, the types of evidence and the criteria in this monograph are generic and the standards specified are minimal. The minimum standards suggested here can be raised by funding agencies as appropriate for specific projects. If this is done, the higher standards should be specified in requests for proposals issued by the funding agency and agreed to by the grantee before a grant is awarded.

Collection of the interim and final evidence requires a fairly substantial cooperative effort by the funding agency, demonstration project, and adopting sites. However, this effort is necessary to document program effectiveness. Anything less will not satisfactorily meet the legislative mandate and will not allay the recent criticisms of the vocational education research and development effort. In many cases, it may not be possible to immediately measure or document what is required for the evidence, but funding agencies and projects should aim toward the total model from the beginning in order to assess the impact of their efforts in the long run.

In this section, the interim and final acceptable evidences are described, followed by a discussion of their use in decision-making and some suggestions for data collection.

A. INTERIM ACCEPTABLE EVIDENCE

As was stated, interim acceptable evidence is defined as that evidence of project success which should be expected during the last phase of the demonstration grant period. (See Exhibit 2). Its purpose is to assess a project's success in terms of its immediate impact and readiness for adoption. Thus, early decisions regarding continued funding of dissemination and diffusion efforts can be made using this evidence.

Answers to the following questions are to be provided by interim acceptable evidence:

- Did a demonstration project have the intended effect on the target population?
- What dissemination strategies were used?
- Did the dissemination materials contain sufficient coverage and details about the demonstration project so that it can be replicated?
- Have efforts been made toward institutionalization of the project?

Other questions which address the long-term effects of a project on its target population and the impact of the dissemination strategies are addressed in final acceptable evidence, to be discussed later.

Exhibit 3 outlines the types of evidence including the criteria, standards, and documentation which define interim acceptable evidence of project success. Three types of evidence are required: demonstration impact, dissemination activities, and efforts toward institutionalization.

1. Demonstration Impact

Demonstration impact is defined as short-term effects on the demonstration project target group(s). It refers to the immediate impact the demonstration project has on its target population upon the conclusion of exposure to project activities. By contrast, the final acceptable evidence requires followup of the demonstration project target population one to two years later

EXHIBIT 3

INTERIM ACCEPTABLE EVIDENCE

TYPES OF EVIDENCE	CRITERIA	STANDARDS	DOCUMENTATION
Demonstration Impact	Extent of short-term effects on demonstration project target group(s).	Significant intended outcomes which can be attributed to program intervention.	Outcome measures from demonstration site including adequate recordkeeping system for followup data collection.
Dissemination Activities	Quality and extent of dissemination activities.	Dissemination strategies and materials include sufficient coverage and details of program to facilitate replication. Achievement of dissemination objectives as stated in the project plan.	Specification of dissemination strategies and materials. Enumeration of dissemination activities, including adequate records of recipients of program materials.
Efforts Toward Institutionalization	Extent of attempts being made to ensure program longevity after completion of the grant period.	Efforts are being made for continued funding and staff training.	Description of efforts being made.

to determine the long-term effects of the intervention. The project target population usually consists of students but can refer to other populations depending on the objectives of the project.

Criterion

The criterion for providing acceptable evidence of demonstration impact is the extent of short-term effects on the demonstration project target group(s). In other words, the criterion refers to the extent to which the project has its intended immediate effect on the target population. For example, to what extent did the students enrolled in the project learn what the project intended for them to learn?

Standard

The standard for acceptable evidence of demonstration impact is significant intended outcomes which can be attributed to the program intervention. The standard requires credible evidence that the claimed effects are attributable to the intervention. Thus, an appropriate evaluation design and data analysis plan is required. For example, pretest and posttest measures should be collected from both participant and comparison groups where appropriate. The standard also requires that reliable and valid measures be used in collecting the data. In assessing whether the standard has been met, the six questions employed by the USOE/NIE Joint Dissemination Review Panel for assessing project effectiveness should be answered. These questions are:

- Did a change occur?
- Was the effect consistent enough and observed often enough to be statistically significant?
- Was the effect educationally significant?
- Can the intervention be implemented in another location with a reasonable expectation of comparable impact?
- How likely is it that the observed effects resulted from the intervention?
- Is the presented evidence believable and interpretable?

A detailed discussion of the above is contained in the Joint Dissemination Review Panel Ideabook.* It should be consulted as a reference since it is not the purpose of this monograph to repeat the materials in that document. In addition, numerous books are currently available which address the issue of sound evaluation practices. In that regard, Appendix C of the monograph provides a list of references which the reader may wish to consult.

Documentation

Outcome measures from the demonstration site provide the documentation for demonstration impact. Outcomes are project results which are measured upon completion of exposure to the project and are related to the project's outcome objectives. Data should be collected from both participant and comparison groups when this is necessary for reliable evaluation results. Most often outcomes refer to impact on students since most vocational education demonstration projects focus on improvements in students. However, there are exceptions. Some projects focus on teacher training, changes in institutional procedures, and other such things. Therefore, project outcomes are referred to simply as outcomes rather than student outcomes and are directly related to the project's outcome objectives.

In addition to collecting the outcome data, a recordkeeping system must be instituted and maintained so that followup data required by final acceptable evidence may be more easily obtained. This recordkeeping system should contain names, addresses, telephone numbers, and all relevant identification and outcome data on all individuals in the participant and comparison groups.

*Fallmadge, G.K. The joint dissemination review panel ideabook. U.S. Department of Health, Education, and Welfare, Washington, D.C. U.S. Government Printing Office, October 1977.

Following is an example of evidence of demonstration impact.

Criterion: Demonstration Impact

Objectives

The outcome objectives of a high school exploratory vocational education project were:

1. To increase participants' awareness of the world of work;
2. To increase participants' competence in choosing a vocational field; and
3. To increase relevance of basic education courses for vocational students.

Evidence

A pre/posttest and comparison group model was used for the evaluation. The comparison groups were matched to the participant group on the most relevant characteristics identified in a field test conducted during the first year of the project.

Analysis of the scores on the Career Maturity Inventory (CMI) indicated that the participant group made significantly higher pre/posttest score gains on the Knowing About Jobs (Objective 1) and Choosing a Job and Looking Ahead (Objective 2) than the comparison group. Although the participant group showed higher score gains on the CMI Attitude or Knowing Yourself Scales (also measures of Objective 2) than the comparison group, the differences were not significant.

The hypothesis for evaluating Objective 3 was that increased course relevance would result in increased learning. The participant group would be expected to achieve significantly higher mean gains than the comparison group between pre and posttest administrations of an achievement test. Results confirmed that participants demonstrated significantly higher mean gains in achievement scores than the comparison group.

Thus, impact was demonstrated for Objectives 1 and 3 and partially for Objective 2.

2. Dissemination Activities

Dissemination refers to the spread of information about the project in the interest of having it adopted by other schools and school systems. Since adoption is a major goal of demonstration projects, dissemination

objectives should be stated in the proposal. These objectives should not only state methods for making others aware of the program, but should also address methods for encouraging quality adoptions, such as providing technical assistance to adopting sites. As a criterion for interim acceptable evidence, dissemination may be considered an indication of project success, although it is not an impact measure. An assessment of dissemination activities evaluates a condition that is necessary but not sufficient for project impact in terms of spread and eventual adoption of the program at other sites. That is, successful dissemination is a necessary prerequisite for spread and adoption beyond the host site.

Criterion

The criterion for providing acceptable evidence of dissemination involves the quality and extent of dissemination activities. Quality refers to the coverage of relevant project information, while extent refers to the number of documents distributed and/or persons reached by each dissemination activity as reflected in the dissemination objectives.

Standards

Two standards relative to dissemination activities are proposed acceptable evidence of project success. These standards are:

Quality: dissemination strategies and materials include sufficient coverage and details of the program to facilitate replication; and

Extent: dissemination objectives as stated in the project proposal are achieved.

These standards answer the questions of whether coverage of the project, including costs, has been in sufficient detail to facilitate replication in potentially adopting sites, and whether the project has attained its dissemination objectives in terms of quantity of materials produced and numbers of persons or organizations reached. At a minimum, materials and presentations should include the following:

- Project objectives;
- Description of target audience;
- Program operations and services delivered;
- Expected project effects;
- Staffing requirements including position descriptions and qualifications necessary for filling these positions;
- Training requirements for staff, teachers, and others;
- Required facilities;
- Required materials; and
- Expected operating costs and per pupil costs and procedures for determining them.

In addition, dissemination objectives should be stated in quantifiable terms to the extent that this is possible. As a followup, final acceptable evidence assesses the impact of dissemination strategies by examining actual adoptions at other sites.

Documentation

Dissemination should be documented in two ways. These are:

- Specification of the substantive content of dissemination information; and
- Enumeration of dissemination activities, including adequate records of recipients of program materials.

The description of dissemination strategies and materials should be in sufficient detail to provide for an evaluation of the extent to which they meet the standard for dissemination. Enumeration refers to simply counting the numbers of individuals and organizations reached through each dissemination activity. In enumerating dissemination activities, records of names, addresses, and telephone numbers should be kept of recipients of project materials so they can be contacted at a later date when adopting sites are being identified. Data on extent of adoption for final acceptable evidence will be collected from these potential adopters.

Following is an example of a dissemination objective and evidence for meeting it.

Criterion: Dissemination Activities

Objective

To contact each school district in the state that has the potential or has indicated an interest in the establishment of the program.

Evidence

- A brochure describing the program model and the project was mailed to each school district in the state.
- Following this mailing, superintendents of school districts believed to have any possibility of implementing the program were sent a letter from the superintendent of the host school district. Two hundred and sixty-seven (267) letters were sent. These letters invited the administrative officials of that district to a workshop where the program would be explained.

3. Efforts Toward Institutionalization

Efforts toward institutionalization refers to attempts to integrate the program into the ongoing educational system and plans for its continued support. It includes such things as infusing the project products into the ongoing curriculum, incorporating program materials into inservice teacher training programs or graduate courses for teachers, or obtaining approval of the state education agency for incorporation of the program materials into a state diffusion system or network, etc.

Criterion

The criterion for providing acceptable evidence of efforts toward institutionalization involves the extent of attempts that are made to ensure program longevity after termination of the demonstration funding. This criterion is not considered an impact measure, but it is considered an important indicator of program longevity which should be measured in the last phase or year of the demonstration project, if not before. It addresses the question of what will become of the program after termination of the demonstration grant.

Standard

A minimum standard for efforts toward institutionalization is difficult to set because of the diversity of the projects. However, minimum standards should include efforts to obtain alternative sources of funding and efforts to institutionalize staff training. The host organization must be in a position to continue funding the program after termination of the grant. A mechanism for training staff is necessary to compensate for staff turnover and to reinforce utilization of the program among present users. In addition to these minimum efforts, other activities addressing institutionalization should also be pursued. If efforts toward institutionalization are not evident during the last phase of the demonstration grant, it is unlikely that the program will survive.

Documentation

A description of the efforts made and agreements reached is the required documentation for this type of evidence. Written commitments of funds for continuation of the program from the board of education or written commitments from the state to provide funds for statewide dissemination are stronger documentation than mere descriptions of activities.

The following is an example of documentation that gives evidence of efforts toward institutionalization.

Criterion: Efforts Toward Institutionalization

Objective

To provide inservice training for ten teachers a year in a solar energy curriculum for a building trades course.

Evidence

Prior to termination of the grant, the local and state education agencies agreed to providing a 60/40 split each year in matching funds for training teachers.

Summary

The above three types of evidence (demonstration impact, dissemination activities, and efforts toward institutionalization) along with their appropriate criteria, standards, and documentation make up interim acceptable evidence of project success.

Documentation for the evidence should be available during the last phase of the demonstration project funding period and will go a long way toward assessing demonstration project success. However, those evidences are not sufficient for assessing the final impact of a project. Final acceptable evidence, discussed below, must also be collected in order to assess overall impact.

B. FINAL ACCEPTABLE EVIDENCE

Final acceptable evidence is defined as that evidence of project impact which should be expected within five years after completion of the demonstration grant period. It addresses the issues of long-term impact of the project and the spread of the program to other schools and school districts. Answers to the following questions are provided:

- How extensive is the spread of the innovation?
- Did the original demonstration project have a significant long-term impact on the target population?
- Does the innovation have a significant short-term impact on the target population when it is replicated?

Three types of evidences are specified as components of final acceptable evidence. As shown in Exhibit 4, these are utilization, long-term impact, and continuation/adoption impact. The evidences are defined by criteria, standards, and required documentation.

Although the legislative mandate calls for evidence to show that innovative practices are used in a substantial number of classrooms or other learning situations within five years after the completion of a demonstration grant, it is recommended that final acceptable evidence be collected within two years following completion of funding. The rationale for this is that extending the collection of impact data beyond two years would increase the problems and costs of collecting followup data from former program participants. The longer one waits, the more difficult it is to track individuals and collect the required followup data.

1. Utilization

Utilization refers to the continuation of the innovative practice at the site of the former demonstration project and the spread of that innovation to other schools and school districts.

Criterion

The criterion for providing acceptable evidence of utilization is the extent of utilization and spread of the innovative practice. Specifically, this refers to the number of classrooms or other learning situations in which the practice is being implemented within five years after completion of the grant period.

EXHIBIT 4
FINAL ACCEPTABLE EVIDENCE

TYPES OF EVIDENCE	CRITERIA	STANDARDS	DOCUMENTATION
Utilization	Extent of utilization or spread.	Program is being fully implemented in at least two sites.	Quantification of the number of sites where the program is being fully implemented.
Long-Term Impact	Extent of long-term effects on demonstration project target group(s).	Significant intended effects which can be attributed to program intervention.	Followup measures of program effects on demonstration target group(s).
Continuation/ Adoption Impact	Extent of short-term effects on target group(s) from continuing and adopting sites.	Significant intended outcomes which can be attributed to program intervention.	Outcome measures from continuing and adopting sites.

Standard

Establishing a standard for acceptable evidence of utilization is difficult due to the variation in size, complexity, and transportability of demonstration projects. Some projects with wide application should be expected to result in numerous adoptions, especially if they have the endorsement and support of the state education agency. Other projects with limited application should be satisfied with a smaller number of adoptions. Thus, the minimum standard for acceptable evidence of success in terms of use and spread is that the program be fully implemented in at least two sites within five years after completion of the grant period. These two implementations could include continuation at the host site and one adoption. More stringent standards can be set for specific types of projects. As stated earlier, these standards should be specified in the request for proposals at the time grant applications are invited.

As stated above, two full implementations are necessary for meeting the standard. This means that 100% of the program's core objectives must be implemented in these sites. This minimum standard is required to ensure the spread of high fidelity innovations from which outcomes can reliably be attributed and from which other adoptions and adaptations can spin-off. Although it is a common and useful practice to take bits and pieces of different ideas to improve educational programs, this eclectic approach should not be labeled adoption for the purposes of this evaluation system since it will be difficult to attribute effects to specific innovations. Therefore, adoption rather than adaptation is required for final acceptable evidence.

Documentation

Extent of utilization is documented by counting the number of sites in which the program has been implemented and assessing the level of implementation. The count of sites may include the number of students, classrooms, schools, or other elements, depending on the type of program. However, the unit of analysis should be consistent for programs that will be compared to each other. Thus, the unit of analysis should be approved by the funding agency in order to facilitate future decision-making.

The level of implementation can be quantified by assessing the number of core program objectives that are being implemented in a given number of classrooms and other learning situations. Therefore, it is important to state the program's core objectives in the dissemination materials and address them in training sessions. Adopters can then report their level of implementation as the percentage or proportion of core objectives being utilized and the number of students, classrooms, schools, or other learning situations in which they are being implemented.

Many projects and funding agencies will want to document adaptations as well as full adoptions in order to assess the overall success of the program. While this is encouraged, at least two full implementations are required to meet the minimum standard for final acceptable evidence.

An example of evidence of utilization is given below.

Criterion: Extent of Utilization

Objectives:

- To increase the scope of the program at the demonstration site to two additional classrooms during the first year following completion of the grant.
- To assist at least one other school district in establishing a quality adoption.

Evidence

After completion of the demonstration grant, the program has increased in scope. This increase is a result of interest generated in other teachers by the demonstration project staff and the availability of inservice teacher training to infuse the program into the ongoing curriculum. In addition to the 153 students previously served, an additional 63 students have been enrolled during the present semester.

Three other high schools have adopted all components of the program. The schools are: Central Vocational School, Eastern Vocational School, and Washington Vocational School. A total of 150 students are participating in the program at these schools. Two additional school districts have implemented the program for another 100 students.

2. Long-Term Impact

Long-term impact refers to the effects of the project on the target population one to two years after exposure to it. To the extent possible, it attempts to answer the question of whether or not the program had any measurable lasting effects on the participants.

Criterion

The criterion for measuring long-term impact is the extent of long-term effects on the demonstration project target group. Thus, for a program designed to teach specific job skills, long-term impact addresses whether former participants were able to obtain and keep jobs in their specialty areas; whether they are moving up a career ladder and/or obtaining salary or wage increases; whether their supervisors are satisfied with their work; etc.

Standard

The standard for acceptable evidence of long-term impact is a significant intended effect which can be attributed to program intervention. An appropriate evaluation and analysis plan is required to show that the claimed effect is attributable to the intervention. As part of this, data should be collected from both participant and comparison groups and these data, if appropriate, should be related in the analysis process to the demonstration impact data collected as part of interim acceptable evidence. Reliable and valid measures of these effects are also required by the standard. In assessing whether the standard has been met, questions similar to those raised by the USOE/NIE Joint Dissemination Review Panel (JDRP) for assessing project effectiveness should be answered. These are:

- Did something take place relative to the long-term objectives of the project?
- Was the effect consistent enough and observed often enough to be statistically significant?
- How likely is it that the observed effects resulted from the innovation?

The JDRP Ideabook cited previously in this monograph should be consulted further in regard to answering those questions. In addition, numerous books on evaluation design such as those listed in Appendix C may be consulted.

Documentation

Followup measures of program effects on the demonstration population provide the documentation for evidence of long-term impact. In most instances, these data would be collected from participating and comparison (nonparticipating) students one to two years after completion of the project to assess the lasting influence of the intervention. However, if the main objective of the demonstration was not on changing student behavior, but on a systems change -- such as installation of a new guidance and counseling or a new management information system (MIS) -- the followup measures would evaluate the long-term influence of the project-generated change on the system.

One of the problems of obtaining followup data from program participants and comparison group members is that of maintaining names, current addresses, and telephone numbers in order to be able to locate the individuals from whom one desires to collect data. A recordkeeping system for these purposes is required. This is discussed in Chapter III of this monograph.

The following is an example of evidence of long-term impact.

Criterion: Long-term Impact

Objective:

To do a followup study of program participants and the comparison group one year after they leave the program in order to assess long-term effects of the program.

Evidence

Local funds had been developed for continued funding of the program after the grant period. In addition, the original funding agency provided funds for followup of demonstration participants and comparison group members. Records developed and maintained during and after the demonstration period facilitated the followup of program participants and the comparison group. Students in both groups who had left or graduated from school after the completion of the demonstration program were contacted prior to the data collection to obtain address corrections.

The first followup of program participants and comparison groups revealed continuing significant differences between the participant and comparison groups. Over 87% of the individuals responding to the followup were participating in additional training (college or technical). Of these, significantly more participants than comparison group members indicated they selected the particular training as a means toward a particular vocation. Moreover, 67% of participants who responded indicated their participation in the demonstration project had been instrumental in conceptualizing vocational plans or in making vocational decisions.

3. Continuation/Adoption Impact

Continuation/Adoption Impact is defined as the short-term impact of the innovation on the target population at continuing and adopting sites. It is similar to demonstration impact of interim acceptable evidence in all respects except for the target population. Thus, it addresses the question of whether the program has similar and significant short-term impact when it is continued at the same site and when it is replicated at adopting sites as it had during its demonstration phase.

Criterion

The criterion for providing acceptable evidence of continuation/adoption impact is the extent of short-term effects on the target groups at the continuing and adopting sites. For individual projects, the same effects which were studied in the demonstration project for demonstration impact should be assessed here for participant and comparison (nonparticipant) groups within continuing and adopting sites.

Standard

The standard for acceptable evidence of continuation/adoption impact is significant intended primary outcomes which can be attributed to program intervention. This standard requires credible evidence that the claimed effects are attributable to the intervention in the same manner as demonstration impact was previously proven.

Documentation

The documentation required for acceptable evidence of continuation/adoption impact are primary outcome measures from continuing and adopting sites. In order to determine whether the innovation had a similar short-term impact at the continuing and adopting sites as it did at the demonstration site, the same data that were collected to provide acceptable evidence of demonstration impact should be collected for providing evidence of continuation/adoption impact.

The following is an example of evidence of continuation/adoption impact.

Criterion: Continuation/Adoption Impact

Objective:

To assess the short-term effects of the program on participants by using the same evaluation instruments that were used by the demonstration project.

Evidence:

Using the demonstration project evaluation plan and measurement instruments, results comparable to those obtained during the grant period continued to be obtained. These results showed that, with respect to all project objectives, participant groups scored significantly higher on all measures than did comparison groups.

The three vocational schools that adopted the program also used the evaluation instruments contained in the dissemination package and found significant improvements in program participants compared to a matched group of nonparticipants.

This finding indicates that the program continues to have a positive impact on students when replicated at other sites and continued beyond the demonstration phase.

Summary

The above three types of evidence (utilization, long-term impact, and continuation/adoption impact) along with their appropriate criteria, standards and required documentation make up what is termed final acceptable evidence of project impact.

Only by meeting all standards for interim and final acceptable evidence as described in this chapter can a demonstration project be labeled successful in meeting the legislative mandate of "improved teaching techniques or curriculum materials that will be used in a substantial number of classrooms or other learning situations within five years after the completion of a demonstration project grant."

C. SUGGESTIONS FOR DATA COLLECTION

During the process of defining interim and final acceptable evidence of project impact, several important issues were raised. These issues concern the collection of the data and are addressed below.

Who has the responsibility for collecting the interim and final acceptable evidence?

Due to the nature of demonstration projects and the time requirements for the interim and final acceptable evidence, it was felt that the demonstration project or its third-party evaluator should be responsible for the collection of the necessary data for interim acceptable evidence as part of its regular project evaluation effort. On the other hand, the funding agency should be responsible for collecting the required data for final acceptable evidence. Since the demonstration grant will have been completed at the time data for final acceptable evidence is to be collected, it is unreasonable to expect the original grantee to be responsible for collecting, analyzing and reporting these data. The funding agency could collect the data for final acceptable evidence itself or contract with an outside evaluator to collect these data.

What are some cost-effective methods for collecting final acceptable evidence?

The most cost-effective approach to the interim and final acceptable evidence is to incorporate it into a single evaluation design which would avoid duplication of effort and provide for a compatible transition from collection of the interim evidence during the grant period to collection of the final evidence a few years later. The research design should identify variables, respondent groups, data collection instruments, and data analysis strategies that could be used for both the interim and final evidence. It should also

provide for appropriate recordkeeping systems that would be readily accessible throughout the project and at the time of collection of the final evidence.

The stage for appropriate evaluation should be set by the funding agency in its request for proposal by requiring a framework for the collection of the interim and final evidence as one of the criteria for funding. The potential grantee or third-party evaluator would be responsible for designing the evaluation plan. The funding agency would be responsible for evaluating the plan as to its feasibility and, if approved, providing funds for implementing the plan.

Collection of the interim evidence could be incorporated into a project's formative and summative evaluation plans which are often carried out by a third-party and monitored by the funding agency. Following the grant period, the funding agency would be responsible for the records from the demonstration project and for the collection of the final evidence of impact.

Documentation of the interim evidence does not present the problems inherent to documentation of the final evidence because the demonstration project is still in place when the interim evidence is collected. However, much of the necessary data for the final evidence can be obtained from existing records and reports from continuing and adopting sites. Data not available in this manner can be obtained through short mail surveys or telephone interviews.

Documentation of the extent of utilization raises several issues since it includes the enumeration of sites where the program is being implemented and the level of implementation. Stated as questions, these issues are: 1) How can adopting sites be identified? 2) How can the components of the demonstration project which have been implemented be identified? Enumeration of sites is based on a count of adopting sites plus continuation of the program at the host site. Identification of adopting sites can be done by canvassing organizations to which materials were disseminated or whose staff visited or received training by the demonstration project. Level of implementation may be evaluated by comparing the core objectives of the continued and adopted programs to those of the original demonstration project.

The ideal evaluation of long-term impact requires followup of demonstration project participants as well as a comparison group, in many cases. Therefore, adequate records of these groups should be kept by the demonstration project, and by the funding agency following completion of the project. These records should include the names, addresses, telephone numbers, and outcome data of individuals in both the participant and comparison groups.

The attrition rate and cost of followup are two issues related to the collection of long-term impact data. The attrition rate can be kept at a minimum by collecting the data within two years following exposure to the project rather than "within five years," as stated in the legislation.

Documentation of the continuation/adoption impact data requires collecting outcome data on the target group(s) from continuing and/or adopting sites. This procedure can be facilitated by using the same outcome measures that were used in the demonstration project and assessing outcomes only in sites where the program has been fully implemented. Attempting to measure outcomes in sites where the program has been only partially implemented is not useful as an impact measure of the demonstration. Therefore, in the case of partial implementations, the collection of outcomes is useful only in predicting future outcomes from identical partial implementations. Outcomes of partial implementations can not be expected to be either comparable or directly attributable to the demonstration project.

D. APPLYING THE STANDARDS

The interim and final acceptable evidences were designed to be decision-making aids. The interim evidence permits the funding agency and others to make decisions concerning continuing program support. The final acceptable evidence provides the funding agency with quantifiable measures of program effectiveness. This evidence can be used for purposes of accountability or to assess the feasibility of alternative programs.

A useful mechanism for applying the standards for the six criteria is to use a Likert-type scale to rate the degree to which the standards have been met, e.g., have been met, have been partially met, or have not been met. In many cases the standards will be only partially met. This will be especially true

in projects that use several student outcome measures. Students may show significant gains on some measures and not on others. Therefore, a decision on meeting the standards must draw on other considerations. These considerations may include the percentage of outcome measures that show significant results and the relative worth of those outcomes compared to ideal program effects and the costs involved. For example, if a program documented significant gains for students on five outcome measures but not on the sixth, a decision may be made to continue the program. In any event, the standards are not a panacea for decision-makers. They are an aid which provides evidence of program effectiveness which should be considered within the context of other events that influence program planning, for example, the continuing need for the program and the availability of resources.*

Alternative decision points for program monitors are discussed in the section on alternative timing options at the end of Chapter III.

*Recommended reading: Ross, John A., Decision rules in program evaluation. Evaluation Review, 4(1), 1980, p.59-74.

CHAPTER III

IMPROVING PROJECT EFFECTIVENESS

This chapter discusses improving the effectiveness of vocational education demonstration projects. For this discussion, a pre-grant period for proposal development and a three-year demonstration grant period are assumed. These are followed by a two-year post-grant period for collection of final acceptable evidence of project impact. Accomplishments during each of these periods affect project success. For example, plans which are formulated during the pre-grant period not only affect whether the project will be funded but also affect the successful implementation of the project after it has been funded.

The discussion below is woven around the roles and accomplishments of various individuals during the pre-grant, grant, and post-grant periods. A role defines the part an individual plays in the project. These roles are:

- Planners: Those persons who participate in the development of a detailed plan or proposal for a demonstration project.
- Implementers: The project director and staff who are responsible for operating the project.
- Evaluators: Project or non-project personnel who assess the effectiveness of the project.
- Disseminators: Those persons who provide information, training, or technical assistance about the project to personnel from other schools and school districts.
- Monitors: Officials of the funding agency who ensure that the project objectives, activities, budgets, and other aspects of the project proposal are being followed.

Of course, a single individual may fill more than one role. For example, a planner during the pre-grant period may become an implementer during the grant period. Additionally, an

individual may be both an implementer and disseminator at the same time.

A. PRE-GRANT PERIOD

The foundation for project success lies with thoughtful and efficient planning, including conducting an adequate needs assessment. The planning process begins with preparation by a funding agency of a formal request for proposal (RFP) or informal invitation to bid. Experience shows there are definite relationships among the quality of the RFP or bid invitation, the quality of the proposal or application received, and the eventual success of the project. A clearly written and well-organized RFP is more likely to result in quality proposals. It is especially important also that the criteria which will be used to review the proposals and the weights assigned to these criteria be specified. These criteria and weights should be appropriate to the type of project being considered and, thus, may vary somewhat across projects. No matter what the specific focus of the project is, however, the criteria should include a number of basic elements. Stating these explicitly will assure that the proposal addresses each of them. The elements are discussed later in this chapter.

Planners

The funding agency should have the primary responsibility for ensuring that interim and final acceptable evidence of project impact is collected. To this end, requirements for the interim and final acceptable evidence should be stated in the RFP and be included in the proposal review criteria with appropriately assigned weights. The grantee should be required to provide the data for interim acceptable evidence as a condition of the grant and funds should be set aside for collection of final acceptable evidence within two years following completion of the grant period. Using these funds, final evidence may be collected by the grantee, the funding agency staff, or by another organization.

*Planners
Monitors*

Emphasis in the RFP and in the proposal should be placed on planning for the continued utilization of the project products and/or the infusion of project concepts, activities, and products into the ongoing educational program. Proposed projects will be more likely to continue beyond the grant period if planners from the applicant organization consider state and local program development plans and priorities when developing a proposal. These plans and priorities should be examined before a proposal is written and the writer should be sure that the proposed project is compatible with them. From an assessment of compatibility with state or local plans and priorities, there should be derived specific statements as to how the products of the project will be infused into the ongoing educational program and from what sources funding will be provided by the appropriate education agency for this purpose at the appropriate time. State and local funding may be phased in during the final stages of the demonstration grant period or, alternatively, funding may be provided in full after completion of the grant period. Phasing of state or local resources over time should be considered since this would reduce the fiscal shock of continuing the activity after the completion of the grant.

Commitment of key decision-makers, project implementers (or staff) and host institution staff to a project is extremely important to success. The chance of increasing commitment and decreasing resistance will be more likely if the persons who will be affected by the project are included in planning and proposal development. In some instances, including these individuals will mean getting specific inputs from them for certain sections of the proposal, and in other instances, it will mean simply eliciting and considering their ideas and opinions. The most important persons to involve, if at all possible, are the proposed project director, the host institution staff, and a potential third-party evaluator. Input from student, manpower development, union,

business/industry, and community representatives may also be worthwhile. Often, the project director is not chosen until after the grant has been awarded. However, as the major implementer of the project, the project director, to the extent possible, should be involved in planning and proposal development rather than being required to implement someone else's plan with no prior opportunity for input.

In a similar manner, some host institution staff may be involved in project implementation either directly or indirectly. These individuals may have very useful ideas or strong opinions that should be considered. Therefore, appropriate host institution staff members should be involved in project planning. Involving key future opinion leaders can foster understanding and endorsement even if their input is limited to reviewing objectives and other basic, though important, elements of the project plan.

Another important factor in project success is timing. It seems that too often insufficient time is spent in planning and writing a proposal. The result of this may be a proposal that is poorly conceived and badly written. Sufficient time must be given by funding agencies for responding to RFPs and similarly, applicant organizations must spend sufficient time for planning and proposal development, rather than cutting corners.

Beyond the above general guidelines and suggestions, the following elements must be adequately addressed by project planners during the pre-grant period and included in the project proposal:

- Evidence of Need;
- Educational Significance;
- Project Objectives and Activities;
- Staffing and Facilities;
- Management Plan;

- Evaluation Plan;
- Commitment of Applicant Organization; and
- Plan for Dissemination and Adoption.

Project proposals or applications should be evaluated by funding agencies on these same factors. A set of proposal review criteria is suggested in Appendix B which parallels these points. These criteria should be used to evaluate demonstration project proposals in order to measure the probability of project success.

1. Evidence of Need

Evidence of need focuses on the definition and scope of the problem being addressed. During the planning and proposal development period, it is necessary for the planner to establish that a widespread need for the proposed program or practice exists; more specifically, that the needs of the target population as described in the proposal are within the parameters of the announced program priorities, that a need exists both in the target area and beyond, that the stated need is based on reliable evidence rather than subjective impressions, and that previous attempts at a solution have not resolved the problem. Evidence of need establishes the potential for utilization, one of the components of final acceptable evidence of project impact.

Planners

Specifically, during the pre-grant period, the planners should ensure that:

- The project plan or proposal focuses on the priorities set forth in the RFP;
- Need for the proposed intervention or project is clearly defined with respect to the population to be served;
- There is sufficient reliable evidence of need within the demonstration project target area;

- The project plan or proposal addresses the seriousness of need in the target area and previous attempts the applicant organization and others have made to solve the problem on their own; and
- There is sufficient reliable evidence of need for populations beyond the demonstration project target area.

The extent to which evidence of need is addressed in the proposal is a function of the RFP. Basically, two types of RFPs exist. The first type asks for implementation and demonstration of a pre-determined program (for example, a solar energy unit for a building trades course). The second type does not specify the program and may be called open-ended. The open-ended RFP calls for a detailed needs assessment in order to justify the proposed program to the funding agency. The pre-determined RFP requires a less detailed needs assessment past the proposed demonstration site since it can be assumed that the funding agency has already conducted one before issuing the RFP. Even with a pre-determined program, however, a needs assessment within the demonstration site will be necessary to establish that site as an appropriate one for implementation of the program.

2. Educational Significance

Educational significance addresses the intervention and its appropriateness for meeting the stated needs of the target population(s). It examines the strength of the supporting evidence for the intervention, the applicant's knowledge of the field, and the transportability of the intervention.

Planners

As with evidence of need, educational significance contributes to the potential for utilization, one of the components of final acceptable evidence of project impact.

Specifically, during the pre-grant period, the planners should ensure that:

- The proposed intervention has a reasonable probability of leading to the expected impact;
- The present "state of the art" for the intervention proposed is understood; and
- The proposed intervention has educational significance within and beyond the demonstration site and can be implemented in other locations with reasonable expectations of comparable impact.

3. Project Objectives and Activities

Objectives are the heart of the project design. They state the approach to the problem and the ends toward which all activities are aimed. Objectives that are realistic and clear are essential for efficient project management. Objectives should be independent of each other, stated in measurable terms, and arranged in a hierarchy with the outcome objectives as the primary or most important objectives. Outcome objectives address the expected impact on the target population. They are necessary for the evaluation of demonstration impact, one of the elements of interim acceptable evidence of project impact. Objectives are also essential for identifying components of the demonstration project which have been continued at the original site and adopted by other schools or school districts in order to assess utilization and continuation/adoption impact, both elements of final acceptable evidence.

Planners

Appropriate project activities for achieving the stated objectives should also be addressed during the planning phase. Criteria for selecting project participants are important to the intent of the demonstration program and for

reliable evaluation of demonstration impact. In specifying activities, opportunity for input should be provided to potential users of project generated practices and products. Plans for early efforts toward institutionalization should also be addressed.

Specifically, during the pre-grant period, the planners should ensure that:

- Objectives address the stated needs of the population toward which the project is directed;
- Objectives are realistic and attainable;
- Objectives are defined in measurable terms;
- Objectives are arranged in approximate order of importance with outcome objectives as primary and addressing the expected impact on the population to be served;
- Project activities are related to the objectives and can be expected to result in attainment of the objectives;
- Criteria for selecting project participants are clearly described;
- Plans are outlined for including potential users in the development of project practices and products; and
- Procedures are outlined for increasing the probability of program longevity or institutionalization.

4. Staffing and Facilities

Appropriate and adequate personnel and facilities are needed to provide the necessary support for project success. The proposed project director should have management capabilities and subject matter expertise to keep the project efficiently targeted on its stated objectives. Other persons involved with the project should be qualified for their particular roles. The project plan should call for each individual to commit enough time to the project to adequately fulfill his/her responsibility. On the other hand, the inefficient

*Planners
Implementers*

use of time can increase the cost of operating the project. The project plan should also provide for needed support and training of project personnel, teachers, and other appropriate individuals to maintain motivation and effectiveness. The plan should allow for project locations convenient to the target population. Facilities should also be accessible to handicapped individuals.

Specifically, the planners should ensure the following during the pre-grant period:

- Proposed project personnel, consultants, subcontractors and advisory group members have the necessary qualifications for the project;
- The project director has sufficient management capabilities as well as subject matter expertise;
- A work plan is developed which allows the amount of time to be committed to the project by each individual to be sufficient to carry out the proposed activities;
- A plan is developed to ensure adequate support and training of project personnel, teachers, and others;
- The location of facilities, equipment, and materials are appropriate for the project; and
- Facilities are accessible to the handicapped.

5. Management Plan

A management plan which will guide the project towards its stated objectives within the proposed time frame and budget is crucial to project success. This plan takes into account position descriptions, intraproject and interproject relationships, task assignments, scheduling, and budgeting. The management plan should build in sufficient time for planning and start-up after the demonstration project has been funded, as well as for the various project activities. An evaluation plan should be built into the management plan to provide a framework for measuring inputs in relation to

*Planners
Implementers*

processes and effects. This will allow procedures to be adjusted if there are indications that the project is not moving toward its anticipated goals. A good recordkeeping system is also essential for efficient management.

During the pre-grant period, planners should ensure that:

- A management plan is developed which includes relationships among the involved organizations and individuals, and responsibilities of each;
- The management plan relates management procedures to implementation of project activities and attainment of project objectives;
- A realistic time schedule is developed for starting and completing each of the project activities;
- The project schedule allows sufficient time for planning and start-up following project initiation for hiring and training of staff; acquisition of adequate facilities and supplies; establishment of a recordkeeping system; establishment of an accounting system; collection of baseline data for a formative and a summative evaluation; and establishment of relationships with cooperating individuals and organizations;
- Provisions are made for using formative evaluation as a management tool;
- An appropriate recordkeeping system for project management is planned;
- The management plan addresses transitional activities required for the survival of the program or use of its products following termination of demonstration funding, including acquisition of alternative financial support;
- Total project costs are reasonable in relation to size, scope, duration, and anticipated results of the project;
- Budget line items are appropriate for carrying out project activities; and
- A plan is prepared for the documentation of costs to facilitate replication by potential adopters.

6. Evaluation

During the pre-grant period, preliminary plans should be developed for both formative and summative evaluations. Fully developed evaluation plans are not necessary during this phase, but the commitment to conducting evaluations must be explicitly stated and frameworks for these evaluations should be outlined.

*Planners
Evaluators*

The implementation of a sound formative evaluation is associated with project success and is necessary for replication of the program at other sites. As a management tool, it can operate as a continuing monitoring device for decision-making to keep the project focused on its objectives. As a result, crises can be anticipated and avoided. In addition, the documentation of inputs, processes, and effects provide information for adopting organizations. A good recordkeeping system is necessary for maximum utilization of the data throughout the life of the project. Baseline data need to be documented as do changes in inputs and processes so that factors leading to effects will be correctly identified.

A summative evaluation is necessary for measuring project effectiveness. The evaluation should include the collection of baseline data at the beginning and outcome data at the end of the intervention period as documentation of demonstration impact, an element of interim acceptable evidence of project success. To meet the standards set forth in interim and final acceptable evidence, the summative evaluation plan should be technically sound so that the project's impact can be reliably attributed to the intervention.

Provision should also be made for the collection of followup data one or two years following completion of the demonstration grant to document the project's long-term impact, an element of final acceptable evidence of project

impact. A followup methodology should be included in the evaluation plan for consistency throughout the data collection process, especially in terms of selection of variables, selection and followup of respondents, instrument design, etc.

In addition, standards for judging the success of the project should be established during the evaluation design phase rather than during or after data collection, when their establishment could be influenced by the data. Adequate records of the evaluation data should be maintained for a followup study as stated in the documentation of demonstration impact.

In general, a good evaluation plan (both formative and summative) is one which provides valid and reliable information for making the necessary decisions with the least disruption to the project and at the least cost. It should fit well and be compatible with the overall project design. The plan should also provide adequate resources and support in terms of personnel, materials, time, and project cooperation. Providing inadequate support is a threat to the validity and reliability of the evaluation data and can be a waste of money. On the other hand, overly designed evaluation plans that require the collection of superfluous data should be avoided as they are often too costly and too disruptive to the project.

Although the development of a complete evaluation plan is not appropriate for the pre-grant period, the building of an evaluation framework is. Thus, several options have to be considered by the planners during the pre-grant period. These options have implications for the objectivity and costs of the evaluation process. The options concern whether and under what circumstances to use a third-party or an internal evaluator. A third-party evaluator is usually preferable to an internal evaluator because he/she is external to and

independent of the system being evaluated and, therefore, should be more objective. Many funding agencies require that a third-party evaluator conduct at least some of the evaluation, particularly the summative evaluation. However, a third-party evaluator is likely to be more costly than an internal evaluator.

In cases where a third-party evaluator is used, personnel from the funding agency and project should jointly agree on who will conduct the evaluation and on the evaluation plan. This will add to the objectivity of the evaluator which could be missing if the evaluator is hired by and answerable solely to the project director.

Exhibit 5 illustrates six options for conducting formative and summative evaluations using third-party and internal evaluators. The options vary by cost and degree of objectivity. In Option 1, the third-party evaluator conducts all activities related to the formative and summative evaluations, including plan design, and the collection and analysis of the data. This option has an added advantage if the evaluator has the expertise to provide technical assistance to the project as part of the formative evaluation. Third-party formative evaluation with technical assistance is an approach often used for demonstration projects in other fields. In Option 2, the third-party evaluator designs the plans and analyzes the data for the formative and summative evaluations but trains and supervises the internal evaluator or project staff to collect the data. The formative evaluation is done by the internal evaluator in Option 3, while the summative evaluation is done by the third-party evaluator. Although this is a frequently used approach, it can result in considerable duplication of effort if the two evaluations are not adequately coordinated. Option 4 represents a method that provides an acceptable amount of objectivity at a relatively low cost. In this approach the formative evaluation is done by the internal

evaluator. The third-party evaluator designs the plan and analyzes the data for the summative evaluation, but trains and supervises the internal evaluator or project staff to collect the summative evaluation data. Since the internal evaluator is doing much of the evaluation and data collection, there is an opportunity to coordinate the two evaluations in this approach and still maintain the objectivity required for the summative evaluation. In Option 5 both the formative and summative evaluations are done internally, while only an internal summative evaluation is done in Option 6. Both of these options will encounter problems concerning the credibility of evidence of project impact. For a small project with a limited budget, Option 4 has the most to offer, particularly if the funding agency has input to the selection of the third-party evaluator and that evaluator is retained for collection of the final acceptable evidence.

EXHIBIT 5						
OPTIONS FOR CONDUCTING PROJECT EVALUATION						
	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6
<u>Third-Party Evaluator</u>						
Designs formative plan	X	X				
Collects formative data	X					
Analyzes formative data	X	X				
Designs summative plan	X	X	X	X		
Collect summative data	X		X			
Analyzes summative data	X	X	X	X		
<u>Internal Evaluator:</u>						
Designs formative plan			X	X	X	
Collects formative data		X	X	X	X	
Analyzes formative data			X	X	X	
Designs summative plan					X	X
Collects summative data		X		X	X	X
Analyzes summative data					X	X

In summary, during the pre-grant period, planners should ensure that:

- Preliminary plans are made for conducting formative and summative evaluations, including decisions for using third-party or internal evaluators;
- The preliminary plan for the formative evaluation is technically sound so that processes can be reliably related to effects;
- A preliminary plan for an appropriate recordkeeping system for the formative evaluation is outlined which will document project processes and effects;
- The preliminary plan for the summative evaluation is technically sound so that observed effects can be attributed to the intervention; and
- A preliminary plan is outlined for an appropriate recordkeeping system for documentation of results of the summative evaluation and the identification of participants for collection of followup data.

7. Commitment of Applicant Organization

Organizational support for the demonstration project is another factor important to the success of the project. It is also an indicator of efforts toward successful institutionalization, a criterion of interim acceptable evidence. The project will need the conscious and overt support of the applicant organization in order to succeed. During the planning phase, the support the applicant organization and cooperating institutions will provide should be specified in writing to assure the funding agency of the support and to avoid misunderstandings concerning this anticipated support. The applicant organization should also plan for continuing or institutionalizing project-generated practices and products after termination of the grant period so the project will have a lasting effect. Evidence of commitment may be shown by citing results of institutionalization of prior projects.

Planners

Thus, during the pre-grant period, planners should:

- Obtain written statements from the applicant organization and cooperating institutions which specify the type and amount of support they will provide to the project;
- Obtain written commitments from the state education agency, where appropriate, to assist in the dissemination and further adoption of successful project activities; and
- Obtain evidence of commitment from the applicant organization and strategies (including their timing) to be used for obtaining future funding and/or use of project-generated products and practices after termination of the grant period.

8. Plan for Dissemination and Adoption

Project demonstration and the distribution of information on project practices and products to encourage adoption of the program by other educational systems is another element important to the overall impact of the project. Since one of the major purposes for funding a demonstration project is to effect widespread improvements, the project should have a dissemination plan and dissemination of information should be stated as a specific objective. The dissemination plan should include awareness, outreach and other strategies to encourage adoption. The materials disseminated should include the kind of information that is needed by a potential adopter to make a decision concerning project use. The dissemination plan should also include provisions for implementation support and guidance that will meet the needs of the various adopters since interest in adoption may diminish if implementation appears to be, or becomes, difficult. Opening the project to inspection by potential adopters during the demonstration phase affords an opportunity for viewing the project in action, something that the literature prepared for dissemination cannot provide. It is also important that records of individuals and organizations receiving information about the project be kept to facilitate identification of potential adopting sites for

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Disseminators*

the purpose of measuring the extent of utilization of the innovation which is a criterion for final acceptable evidence of impact.

Therefore, during the pre-grant phase, planners should:

- State dissemination as a project objective in order to encourage utilization of the demonstrated practice and/or product;
- Develop a dissemination plan which identifies procedures, target audiences, and the source(s) of funding for demonstration and dissemination;
- Include in the dissemination plan an outreach approach and a combination of information awareness activities such as newsletters, seminars, conferences, etc., which will be useful to potential adopters in deciding whether or not to replicate the program;
- Include in the dissemination plan implementation support to new users; and
- Ensure that the dissemination plan provides for the demonstration of the exemplary features of the program during the last phase of the grant period.

In summary, accomplishment of each of the above by the planners during the pre-grant period can result in an improved grant proposal and the first step toward the implementation of a successful demonstration project. To assure that each element is in fact addressed in an adequate manner in a proposal, a set of proposal review criteria that may be used by funding agencies is contained in Appendix B.

The grant period is discussed in the following section.

B. THE GRANT PERIOD

The three-year grant period is divided into three phases: Planning/Start-up, Implementation, and Demonstration/Dissemination. Each phase may last up to one year.

The planning/start-up phase focuses on getting the project off to a good start. As a first step, the planners should assist the implementers to interpret the proposal in order to help them understand how the project was visualized as fitting into the long-range plans of the host institution. Sufficient start-up time should be allowed so that the management, evaluation, and dissemination plans can be refined and finalized. In addition, planning for institutionalization of the program at the host site after the conclusion of the grant period should be started. The earlier the project implementers begin a push for institutionalization, the greater will be the chances of their success.

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Evaluators
Disseminators*

The project should be fully implemented by the beginning of the second year. If the pre-grant and planning/start-up activities were effective, full implementation in the second year should primarily involve carrying out the plans formulated and tested earlier. Monitoring progress can most effectively be accomplished by the project director and evaluator utilizing the formative evaluation as a tool. The summative evaluation should begin with the initial collection of interim acceptable evidence of project success. The responsibility of the funding agency monitor will be to assure that the project is progressing as intended and to give support whenever it is needed. Effective communication is important throughout the life of the project. During implementation, periodic staff meetings are useful as problem-solving sessions and can increase staff commitment. Efforts to continue the program at the host site after conclusion of the grant period should proceed.

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Evaluators
Monitors*

Demonstration/dissemination activities should be at their peak in the third year of the grant period. The project should be open to visitors. Awareness literature describing the project should be distributed to previously identified target audiences. Training and technical assistance may be provided to potential adopters during this time. The summative evaluation should continue to collect interim acceptable evidence of project success. Activities to assure continuation of the program following the grant period should be pursued by the project director and other appropriate personnel from the grantee organization.

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Evaluators
Disseminators*

Specific activities to be accomplished during the three grant period phases are discussed below.

1. Planning/Start-up Phase

The planning/start-up phase is the time during which the proposal is translated into a plan of action. Activities to be accomplished include interpreting the proposal, refining the management plan, and planning for evaluation, dissemination, and institutionalization.

a. Interpreting the Proposal

Initially, the planners should work with the implementers, evaluators, disseminators, and monitors to help them:

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Evaluators
Disseminators
Monitors*

- Understand and carry out the intent of the proposal;
- Understand how the project fits into the long-range plans of the host institution, grantee, and state; and
- Understand their roles and responsibilities in implementing the project.

Familiarity with pre-grant planning and the intent of the planners is essential for the implementers, monitors, evaluators, and disseminators. This will give them a

clear understanding of the roles they are expected to play and the contributions they are expected to make to the success of the project and the measurement of that success. As an example, when a need is identified and an intervention is selected as appropriate for meeting that need, plans for institutionalization should be addressed as part of pre-grant planning. Throughout the grant period, mechanisms for institutionalizing the intervention into the ongoing educational system should continually be developing to ensure that the program will be strong enough to survive in the system after the conclusion of the grant. To effectively accomplish this requires knowledge of how the program was envisioned by the planners as fitting into local and/or state long-range plans.

The more the key project implementers are involved in the pre-grant planning, the smoother the transition into the grant period will be. For example, a project director who was the major author of the project's proposal will be in a better position for start-up than a project director who is hired after the grant is awarded and has had no input into the proposal. For one thing, the former project director will be implementing his/her own plan while the latter project director will be implementing someone else's plan. Knowledge of the intent of the planners is equally important for evaluators, disseminators, and monitors.

b. Refining the Management Plan

The management plan is the project director's tool for guiding the project successfully toward its stated goals. As such, it is a mechanism for effectively organizing and managing a number of interrelated activities. It can also be used to predict and prevent crises through early identification of potential problems. If a problem does

Implementers

occur, the management plan can be used to identify possible causes and aid in the development of solutions.

A general management plan should be presented in the proposal. It will then be worked out in more detail and revised after the grant is awarded. This is an early responsibility of the project director since he/she will be the prime user of the plan. The project director should consult with the initial planners, other project staff, the disseminator, the evaluator, and the monitor as the plan is being revised to be sure they are in agreement with the direction the project will be taking and their roles in it.

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Evaluators
Disseminators
Monitors*

The following is a discussion of some important aspects of a good management plan. This discussion does not address how to write a management plan nor does it touch on all of its aspects. Many good books have been written on the subject, some of which are listed in the bibliography at the end of the monograph. Rather, these management aspects are particularly associated with the achievement of project success.

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Project Objectives and Related Activities

Properly stated, the project objectives and related activities can provide a framework for managing and evaluating the project. Process objectives can be used to monitor the progress of the project, and outcome objectives can be used to assess the project's effectiveness.

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Hierarchy of Objectives

The proposal review criteria state that the project objectives should address the stated needs, be attainable, be defined in measurable terms, and be arranged in approximate order of importance with outcome objectives addressing the expected effect on the

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population to be served. Exhibit 6 illustrates a hierarchy of objectives for an exploratory vocational education project. The hierarchy represents a ranking where each objective is based on another objective at a different level. The process objectives lead to the outcome objectives, which state the ultimate purpose of the project. The process objectives are the major focus of the formative evaluation, while the outcome objectives are the major focus of the summative evaluation.

There are several reasons for arranging objectives in a hierarchy. One is to provide a mechanism for clearly stating the outcome and process components that comprise the core of the project. Another reason is to clarify the relationships between the objectives and to highlight the primary outcome objectives in this relationship. Many projects state only process objectives. The result is that the emphasis in management and evaluation is on accomplishing process objectives (staff training, for example) and impact on the students becomes secondary. Still another reason is to aid in the management and evaluation of the project. The hierarchy can be used to produce management aids such as scheduling and personloading charts, and both formative and summative evaluation plans.

Levels of Detail

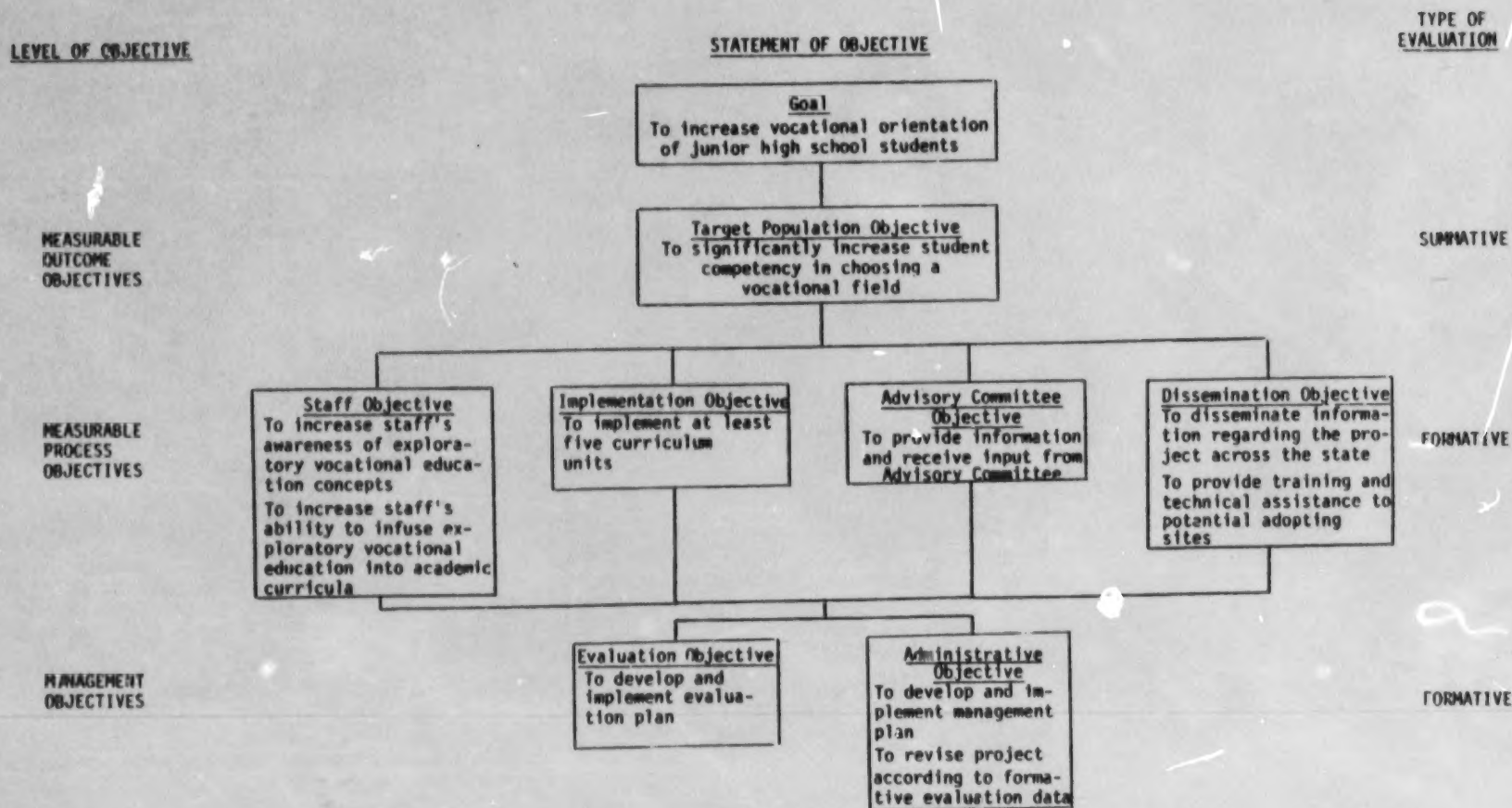
Project objectives can be stated at different levels of detail or specificity. It is often useful to formulate objectives in more general terms early in the planning process to visualize how the pieces will fit together. Then they can be formulated into more detailed, operational objectives as the project plan becomes more specific. The general and operational objectives will not conflict. They will simply be expressed at different conceptual levels. For example, the outcome objectives which are stated in the proposal may be more general than those that appear in the management or evaluation plans. An illustration is given below:

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General Outcome Objective: To significantly increase student competency in choosing a vocational field.

Operational Outcome Objective: By May 1980, students participating in the program will significantly increase their competency in choosing a vocational field compared to students who have not participated in the program, as measured by a standardized test.

EXHIBIT 6 HIERARCHY OF OBJECTIVES (SAMPLE)



As can be seen, the general objective, while being measurable and implying the use of a pretest/posttest, comparison group evaluation design through the use of the word "significant," is not stated in as much detail as the operational version of the objective which states the time of testing, the methodology, and the instrument. The second version is preferable to the first because of the detail. It should be the type stated in the final versions of the management and evaluation plans. Stating the time of testing locks the objective into the project time frame and management plan.

Although stating objectives in detail is preferable in most cases, stating very detailed outcome objectives in the proposal without input from the evaluator can cause problems. Evaluators should have input into the methodology, the measurement instruments, and the data collection schedule. Therefore, if the evaluator cannot have input into the proposal because he/she is selected after the grant is awarded, it is better to leave room for input by establishing parameters but leaving the detail planning for later. The more generally stated outcome objective given above establishes these parameters, but does not give the detail.

In most cases, it is probably somewhat easier to state process objectives in operational terms in the proposal. An example of a very specifically stated process objective is given below:

Operational Process Objective: To include 40 youths beginning January 1980, from Central Junior High School, in the program and expand the program each year with the ultimate goal of serving 150 youths by the third year of operation.

This type of detailed, measurable objective provides a good basis for management by objectives using the formative evaluation.

Once the objectives have been formulated, the activities which are necessary for accomplishing each objective should be listed. All activities should relate to the accomplishment of a particular objective, thus providing a framework for scheduling and monitoring the project. Exhibit 7 illustrates the relationship.

EXHIBIT 7

ACTIVITIES RELATED TO PROJECT OBJECTIVES

Objectives	Activities
<u>Target Population Objective</u> To significantly increase student competency in choosing a vocational field.	A. Select students B. Implement curriculum units in courses C. Arrange for speakers and field trips relating to a variety of vocations.

Scheduling

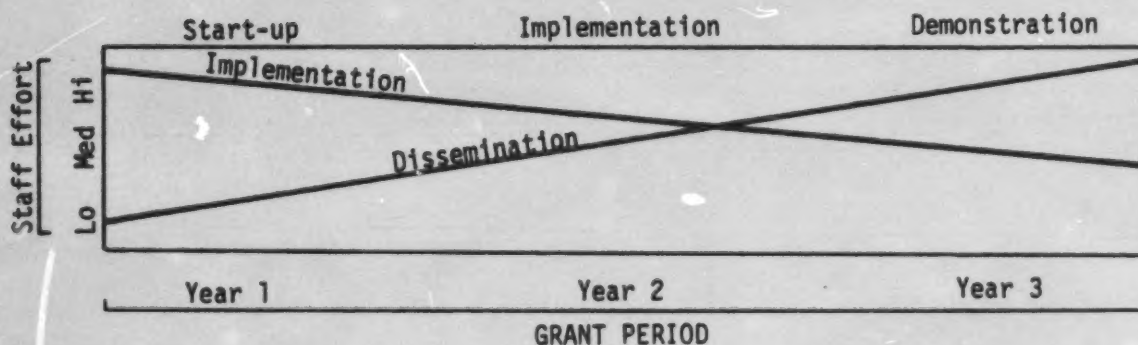
Establishing and managing a demonstration project is a process requiring varying amounts of effort for the different tasks over the three-year grant period. During the first year of a three-year grant, the greatest effort will be spent on planning and start-up for implementation. Although initial planning for demonstration/dissemination should also begin at this time, it will be at a much lower level of effort because of the intensive effort required by the staff for start-up and implementation. In the second year,

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activities for demonstration/dissemination should increase as implementation becomes more routine and requires less staff time. In the third year, implementation should be fully operational requiring still less staff time and the amount of effort being put into demonstration/dissemination should be at its peak. Exhibit 8 illustrates the variation in the amount of effort required over the three-year grant period for implementation and demonstration/dissemination. The timelines, budget, and staffing presented in the management plan should reflect these types of variations in the requirements for the different tasks.

EXHIBIT 8

VARIATIONS IN AMOUNT OF STAFF EFFORT REQUIRED FOR IMPLEMENTATION



Two of the most common problems that interfere with project success are insufficient start-up time and underestimating the time for accomplishing a task. This is particularly crucial when the accomplishment of a task affects a whole chain of subsequent events (for example, developing training materials for teacher workshops). Good planning requires realistic scheduling. If too much rescheduling has to be done because of overly optimistic expectations, it destroys the whole purpose of planning. To help in the project management process, two scheduling aids are discussed below, the PERT Chart and the Gantt Chart.

Implementers

PERT CHART

Networking, of which PERT is one of the most well known, provides a mechanism for mapping the interrelationship of project events to assist in scheduling. PERT, or Program Evaluation and Review Technique, was designed by a Navy-sponsored research team in 1958. Today, many variations exist. As with project objectives, a PERT chart can be drawn in different levels of detail. Higher management will need a less detailed network than individuals at the operational level.

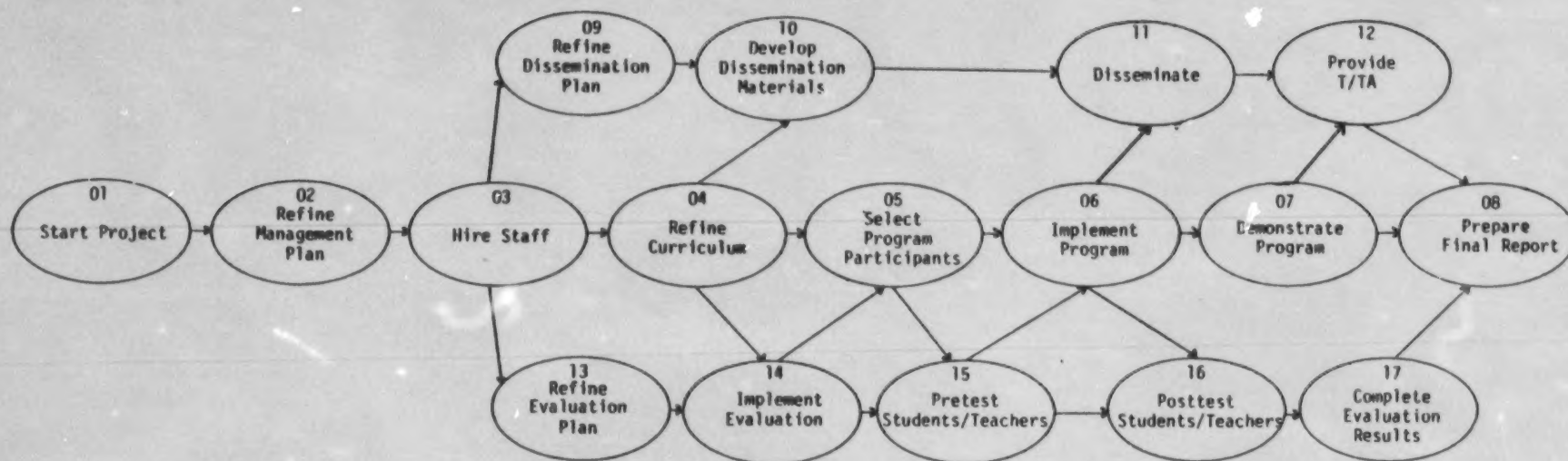
Implementers

The network is made up of events, each with its own event number. The lines between events represent activities. Each event must be preceded or succeeded by another event unless it is a starting or terminating event. No activity can start until its predecessor event or events have been completed. Thus, the PERT chart, unlike the Gantt chart described later, reflects the real constraints of the project.*

Exhibit 9 illustrates a PERT network for a demonstration project. The circles indicate events which are highly identifiable points in time. For instance, Event 01 (Start Project) represents the receipt of formal authorization to begin the project; 02 (Refine Management Plan) indicates the completion of the refined plan. The activity line between 01 and 02 indicates the activities required to refine the management plan after receipt of authorization for the project. In addition,

*Miller, Robert, W. PERT, CPM, and other networking techniques. In H.B. Maynard (Ed.), Handbook of business administration. New York: McGraw-Hill, 1970, pp. 17-85.

EXHIBIT 9
SAMPLE PERT CHART OF PROJECT ACTIVITIES



time requirements for each activity can be indicated above the activity line to facilitate time management. Initiation of the activity leading to any event is contingent upon completion of subsequent events. Thus, Event 09 (Refine Dissemination Plan) and Event 13 (Refine Evaluation Plan) are dependent on the completion of Event 03 (Hire Staff).

Gantt Chart

The Gantt Chart is a planning calendar which shows the relationship of time and the implementation of the various project tasks. It was originally developed by Henry L. Gantt, an early innovator in scientific management, as a management control device during World War I. Since then, derivations of the Gantt Chart have appeared and "Gantt," like "PERT," has become almost a generic term.

Implementers

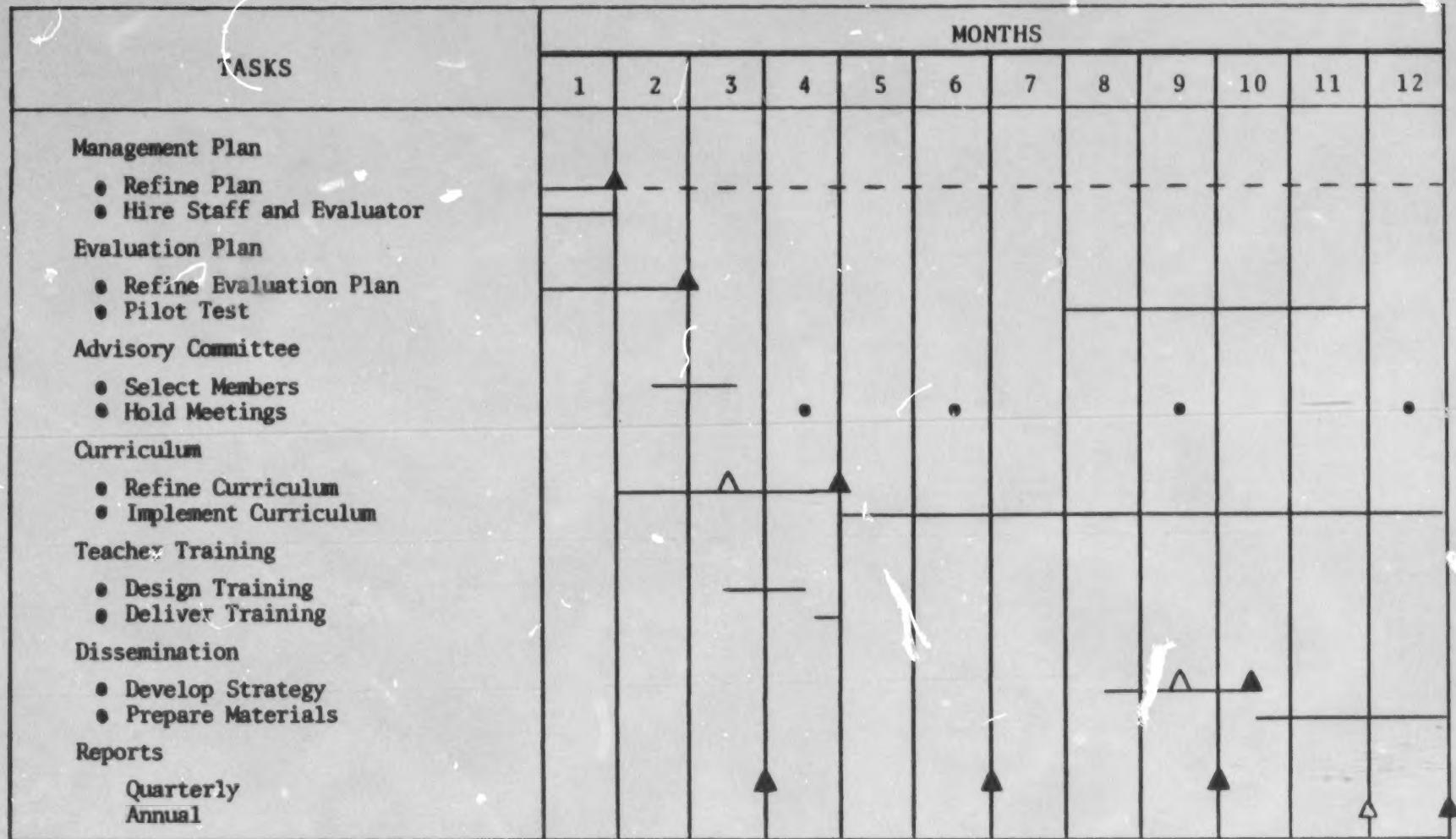
Utilizing the Gantt chart approach has several advantages. For one thing, designing a Gantt chart forces the individual to develop a management plan because it requires specifying all of the tasks that must be accomplished by degrees and in detail. In addition, it is a good working tool for a project manager because it is self-adjusting in that lines can be lengthened or shortened, or tasks can be added at the bottom. Since the Gantt chart is used for planning the future, it is usually included in the proposal and management plan but not in final reports*.

In the Gantt chart, the tasks to be accomplished are listed at the left in the rows, and time (e.g., weeks or months) appears in the columns across the top. However, Gantt charts do vary as to how tasks are listed, the subdivisions of time used, and the symbols used. In Exhibit 10 a sample Gantt chart is presented. In this chart, each task is directly derived from a project activity, which in turn has been derived from a project objective. In some cases, it may be useful to break tasks into subtasks and include these on the chart. The times across the top are in months but could be in weeks. This sample is only for 12 months, or for the first year of a three-year project. In actual practice, the entire three-year project should be scheduled. The solid lines represent the duration of a task while broken lines represent intermittent activity or reduced effort. Black triangles indicate the completion of final products, reports and/or deliverables, while drafts are shown in white triangles. The small black dots are used for meetings.

*Heyel, Carl (Ed.) The encyclopedia of management. New York: Van Nostrand Reinhold Co., 1973, pp. 279-283.

EXHIBIT 10

SAMPLE PROJECT GANTT CHART



_____ Activity
 - - - - - Intermittent Activity

● Meetings
 △ Draft Deliverables
 ▲ Final Deliverables

Staffing

In addition to structuring the project activities, two areas that are important to project success are managing and motivating the staff. These two areas are interrelated because good management contributes to staff motivation and, similarly, bad management often leads to frustration and dissent among staff members.

Implementers

Organization charts, position descriptions, and personloading charts are all useful staff management devices and should be part of the management plan. The organization chart is a blueprint of the project structure while position descriptions spell out each staff member's responsibilities. A personloading chart is a mechanism for forecasting who will be needed where, when, and for what purpose. These management charts should be developed during the pre-grant period and appear in the project proposal. They should then be updated during the planning/start-up phase of the grant period.

Organization Chart

The Organization Chart defines levels of responsibility and formal lines of communication among project staff positions. Or, using Silverman's ideas*, it can be conceptualized as defining levels of authority, responsibility, and accountability. Communication regarding authority and responsibility move downward through the organization while communication concerning

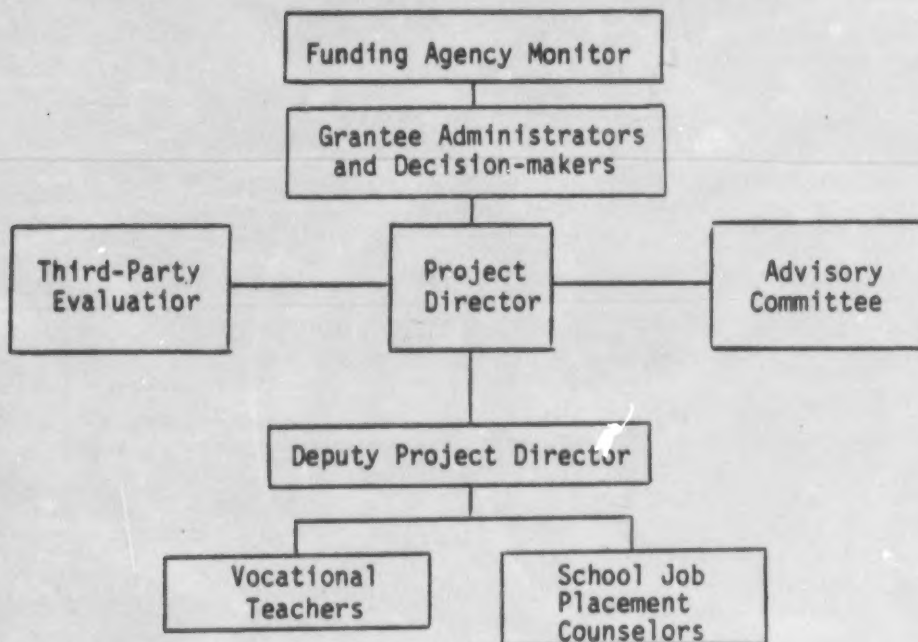
Implementers

*Silverman, Melvin. Project management (Vol. 2). New York: John Wiley & Sons, 1976, p.5.

accountability moves upward. Management has the authority to delegate responsibility to get a job done. However, as Silverman points out, "Accountability cannot be delegated downward."* Rather, each individual is accountable to the person above. He further states that "Occasional attempts to delegate accountability result in management's abdication - not delegation."** Exhibit 11 illustrates an organization chart for a typical demonstration project.

EXHIBIT 11

SAMPLE PROJECT ORGANIZATION CHART



Although an organization chart is a useful planning tool, putting boxes on a piece of paper does not automatically lead to accomplishments. The project staff is made up of human beings who have different needs, interests, and perceptions. The role of the project manager is to bring this group together to work cooperatively toward the efficient and effective achievement of the project goals. To foster this, the project manager should be sure that all staff members have a clear understanding of:

* Ibid.

** Ibid.

- Project objectives and goals;
- How these objectives and goals will be accomplished;
- Roles and responsibilities in the achievement of the project goals; and
- Relationships with other host institution staff members.

Initial staff orientation and training should focus on clarifying these issues. In addition, formal and informal communication with project staff and others represented in the organization chart should be frequent and provide information on the progress of the project and an opportunity for feedback.

Position Descriptions

Position descriptions should be written for each project staff position. A good position description will define a person's relationship to others in the organization; the purpose of the position; the project objectives that must be achieved in that specific position; the specific role, responsibilities, and authority of the position; the basis upon which the performance of the person filling the position will be judged; and the basis for remuneration.* Exhibit 12 shows a sample position description.

Implementers

*Golightly, Henry, and Horst, John. Organization planning. In H.B. Maynard (Ed.), Handbook of business administration. New York: McGraw-Hill, 1970, p.2-39.

EXHIBIT 12

SAMPLE POSITION DESCRIPTION

<u>Title:</u>	Deputy Project Director
<u>Salary:</u>	\$20,000/annum
<u>Duration:</u>	Full-time/temporary
<u>Qualifications:</u>	BA in education, five years teaching experience; and curriculum development and management capabilities

Responsibilities: The deputy project director will report directly to the project director. He/she will be responsible for managing day-to-day activities and for supervising and coordinating the teachers and placement counselors. Specifically, the deputy project director will assist in the training of teachers, oversee the selection of participants, coordinate the demonstration implementation, manage the implementation of evaluation plans, and coordinate the dissemination activities. The deputy project director will chair Advisory Committee meetings and will provide periodic performance reviews of project staff. He/she will be the spokesperson for introducing the project at conferences and seminars.

Personloading Chart

A personloading chart is used for estimating the number of workdays that will be required for each position to accomplish the various project tasks. Exhibit 13 illustrates a personloading chart. The tasks listed in the rows at the left are the same as those listed in the rows on the Gantt chart (Exhibit 10). The project positions are given in the column across the top of the chart. Each cell contains the estimated number of workdays for each position for each task. Total workdays required for each task are given in the left-hand column. Total workdays required for each staff member is given at the bottom of the columns under each position title. This chart helps the project director allocate individuals to the different tasks and allows him/her to keep track of the number of days remaining and, therefore, number of dollars remaining for completion of each task.

Implementers

EXHIBIT 13

SAMPLE PROJECT PERSONLOADING CHART (PERSONDAYS)
(First Year)

TASKS	TOTAL	Project Director	Deputy Project Director	Curriculum Developers	Teachers	Placement Counselors	Evaluator	Advisory Committee
Management Plan								
• Refine Plan	15	10	5					
• Hire Staff & Evaluator	5	5						
Evaluation Plan								
• Refine Evaluation Plan	25	5	5				15	
• Pilot Test	40	10	5				25	
Advisory Committee								
• Select Members	15	5	10					
• Hold Meetings	36	8	8					20
Curriculum								
• Refine Curriculum	95	10	30	40	10	5		
• Implement Curriculum	310	20	50	20	200	20		
Teacher Training								
• Design Training	35	15	20					
• Deliver Training	40	5	5	10	10	10		
Dissemination								
• Develop Strategy	25	10	15					
• Prepare Materials	55	15	25	15				
TOTAL	696	118	178	85	220	35	40	20

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DEVELOPMENT ASSOCIATES, INC.

c. Planning for Evaluation

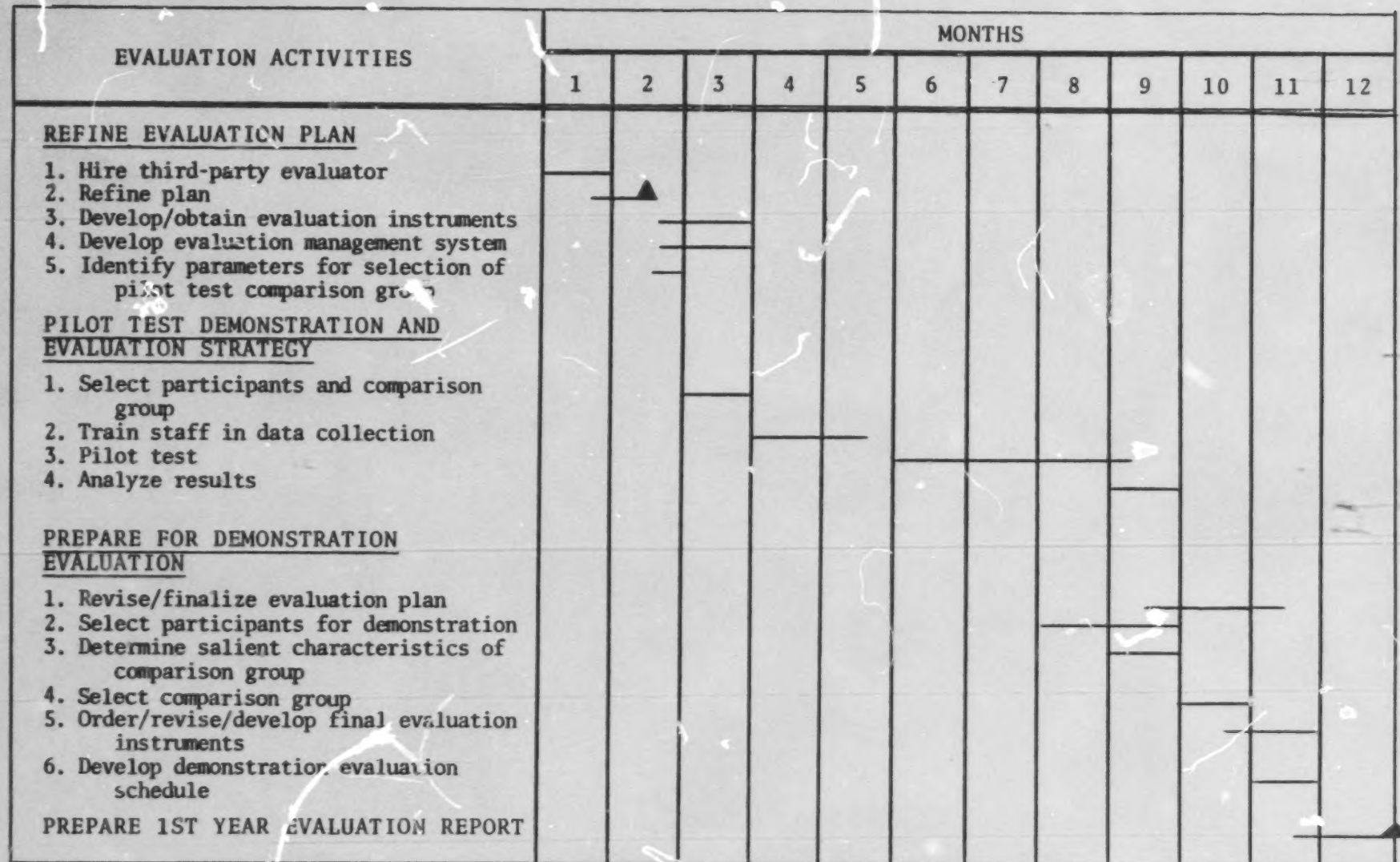
*Implementers
Evaluators*

As with other project activities, evaluation during the first year of the grant period should center on planning and pilot testing. A third-party, or independent, evaluator should be used if at all possible. The evaluator should design both the formative and summative evaluation plans to increase efficiency and provide feedback to the project implementers. Exhibit 14 lists some of the preliminary evaluation activities that should take place. As the exhibit indicates, the collection of valid outcome data by the end of the first year is not a feasible expectation. It is more practical to spend the first project year planning and pilot testing evaluation procedures in order to obtain a good evaluation design and sufficient time to implement that design during the second and third project years. Evaluation activities for the first year will be discussed in this section. Evaluation activities for the second and third years will be discussed in subsequent sections. The discussions will center on issues associated with project success and the valid documentation of project effectiveness rather than a detailed explanation of how to conduct an evaluation. Several good books have already been written on this latter subject, some of which are listed in Appendix C. It is not the purpose of this monograph to repeat these materials. They should be consulted for a complete discussion of the various evaluation designs which may be appropriate for individual projects.

Evaluation activities to be accomplished during the first year of the grant period are divided into two major headings. The first is labeled "Planning" and is to be accomplished during the first half of the year; the second is labeled "Pilot Test" and is to be accomplished during the second half of the time period.

EXHIBIT 14

GANTT CHART OF PRELIMINARY EVALUATION ACTIVITIES



▲ Plans/reports

Year I -- Planning

Although some projects may identify a third-party evaluator in its proposal, for most projects a third-party evaluator has to be selected and hired after the grant has been awarded. The selection procedures can easily take several weeks. The evaluator's first task will be to refine the evaluation plan that was presented in the proposal.

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Evaluators*

Refine Formative and Summative Evaluation Plans

The proposal should have included preliminary formative and summative evaluation plans. One of the first tasks of the evaluator will be to refine these plans. That means that concepts that were presented in the proposal in general terms will have to be worked out in more detail and reformulated in operational terms. For example, project objectives will have to be reformulated into detailed, measurable objectives to provide a basis for the evaluation plan. The primary objectives will be the basis of the summative evaluation since they address program outcomes. The process objectives will be used mainly for the formative evaluation which monitors project progress and feeds information back to decision-makers to keep the project on course (See Exhibit 6, Hierarchy of Objectives). However, since some of the same data will be used for both the formative and summative evaluations, these two efforts should be coordinated.

After the project objectives have been operationalized, details of the research design must be developed including selection of measurement instruments and data collection and analysis procedures. If measurement instruments have to be ordered, time should be allotted for this.

Much of the data for the evaluation can be collected by project staff. This is a good way to reduce the cost of the evaluation. In order to have this work well, the evaluator should design data collection procedures and schedules for the project director and work closely with the project staff to develop a routine for data collection so that it becomes an integral part of the project activities.

The evaluator should also have a plan for coordinating evaluation reporting and recordkeeping with the project's regular reporting and recordkeeping system. To accomplish this, the evaluator will have to know who will receive reports, what kind of information is needed, in what form,

and when the information is expected. In addition, some familiarity with the form and content of the project's and host institution's recordkeeping system will be useful so that the evaluator can not only use the information that has already been collected, but can also feed evaluation data into the system for future needs, such as followup for students.

Establish Rapport With Project Staff, Administrators, Teachers, Students and Others, As Appropriate

The project director should take the responsibility for seeing that staff and others who will come in contact with the evaluator understand the evaluator's role and importance to the project. A good evaluator can be a real asset in the development of the project by providing feedback to the staff. In addition, the evaluator can guide the staff toward the valid documentation of their project's success.

In turn, the evaluator should make an effort to establish and maintain rapport. He/she should work closely with the project director and project monitor to identify their information needs. He/she must also work closely with administrators of the host institution to gain access to data sources, such as student records.

Work With School Personnel in the Selection of a Comparison Group

If a comparison group is needed to validate the effects of the program (and in most instances it will be), the parameters for selecting the group should be included in the evaluation plan. The parameters will address such things as the number of individuals needed in the comparison group (allowing for attrition) and characteristics of individuals needed to match the program participants.

Once the parameters for the selection of the comparison group have been established, the evaluators should meet with the project director and host institution officials to discuss procedures for assigning individuals. The selection and assignment process may require obtaining permission from several administrative levels as well as from parents and students. Therefore, for most three year projects, the best approach will be to pilot test the selection and measurement procedures the first year with a view to collecting good comparison data during the second and third years.

Train Project Director in Use of Data Collection Schedule

The evaluator should train the project director and relevant staff members in the data collection procedures and schedule once they have been finalized. This will entail also familiarizing the project director with the data collection procedures that will be conducted by the evaluator. Throughout the data collection period, the evaluator should remind the project director of upcoming data collection events for which the project director and staff are responsible and continually monitor the quality of data being collected.

Train Appropriate Personnel in Data Collection

This task will entail training data collectors whether they are project staff or individuals working directly for the evaluator. The training may include methods for administering tests or self-report questionnaires, interviewing, or abstracting data from existing records.

Year I -- Pilot Test

If the first half-year is spent in hiring staff and refining plans, the project should be ready for the first round of participants during the second half of the first year. That period will usually be a period of trial for the plan that was articulated in the proposal. Therefore, even though the staff should make their best efforts to provide the full range of services, it must be realized that the project is in its infancy and this time can best be spent perfecting the system. For the evaluator, there are several activities to be accomplished during this time which will contribute to the success of the project. These are discussed below.

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Pilot Test Evaluation Plan

Due to the nature of the start-up activities that occur during the project's first year, valid outcome data should not be expected from the first group of students. Rather, it may be more realistic that the first group of participants be used for pilot testing such things as:

- Measurement instruments;
- Data collection schedule and procedures;
- Procedures for selecting the comparison group;
- Data analysis procedures; and
- Reporting and recordkeeping procedures.

This will require the evaluator to work cooperatively with everyone who is involved with the project. Basic to that cooperation is the establishment of a meaningful two-way flow of communication. The evaluator should take the time to explain why certain things are being done and, in turn, should listen to and consider the project staff members' comments regarding evaluation procedures.

Provide Feedback to Project Implementers

When the results of the pilot test are known, the evaluator should meet with project implementers to discuss the findings and possible revisions for the plan. The dialogue between the evaluator and the implementers should also focus on the formative aspects of the evaluation, that is, the findings that indicate which project activities appear to be working satisfactorily and which ones do not. In light of the evaluation findings, the group should discuss modifications in the project approach that may be necessary or advisable.

Make Necessary Revisions in Evaluation Plan

Individual components of the evaluation plan may be revised after the pilot test and discussion with project implementers. These components include measurement instruments, the data collection procedures and schedule, comparison group parameters, and data analyses, reporting and recordkeeping procedures.

Begin Selection of Comparison Group for Year 2

For projects requiring a comparison group in the evaluation plan, selection of the comparison group for the second project year should begin toward the end of the first year so that both project participants and comparison group members are in place at the same time at the beginning of the second year. Optimally, at the end of the first project year, all program participants and comparison group members should have been selected and permission received for their participation in the evaluation so that they can be pretested at the beginning of the second year.

Evaluation Report

The Year I evaluation report should discuss evaluation activities during the first year, results of the pilot test, whether the project is meeting its objectives, suggestions for improvements, the final evaluation plan for years 2 and 3 (which will provide the interim acceptable evidence discussed in Chapter II), and the plan for the collection of final acceptable evidence after the termination of the demonstration grant.

The report will become part of the funding agency's record of the project. While most people who will read the report will not be evaluators, some may be. Therefore, it is recommended that the evaluation report contain an executive summary written in lay language. The body of the report should contain, however, the kind of detail that is necessary for an evaluator to assess the validity of the data, such as the parameters used for selecting the comparison group and statistical procedures used for analyzing the data. It is also recommended that the evaluation report be separate from the project director's report so that details of the evaluation can be preserved without making the project report too cumbersome.

d. Planning for Dissemination

In discussing the pre-grant period, the importance of stating dissemination objectives in the proposal and outlining activities focusing on dissemination was pointed out. In the first year of the grant period, a plan of action should be worked out in more detail. Referring back to Exhibit 8, Variations in Amount of Effort Required for Implementation, it is anticipated that dissemination will be given much less attention than implementation and evaluation activities. It is anticipated that these latter activities will be taking most of the staff's time during the first year, but the level of dissemination will steadily increase in the second and third years.

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One of the first tasks for the disseminator will be to operationalize the dissemination objectives presented in the proposal. That is, to the extent possible, the dissemination objectives should be rephrased giving more detail so they can be used to manage and evaluate the progress of dissemination. Exhibit 15 illustrates two levels of conceptualization of a dissemination objective.

EXHIBIT 15

EXAMPLE OF LEVELS OF DETAIL OF A DISSEMINATION OBJECTIVE

EXHIBIT 15 EXAMPLE OF LEVELS OF DETAIL OF A DISSEMINATION OBJECTIVE		
<u>Level of Detail</u>	<u>Purpose</u>	<u>Objective</u>
General	Proposal	To disseminate project materials to other school districts.
Specific	Dissemination Plan	To disseminate awareness brochures describing the project to all school districts in the state by the end of the second project year.

It should be pointed out that it is preferable to state these objectives in as much detail as possible in the proposal, but in the cases where this is not possible, they should be rephrased in more detail during the planning/start-up phase of the grant period.

Dissemination activities should be related directly to the dissemination objectives and be included in the management and evaluation plans along with the other project objectives and activities. The evaluator should monitor the dissemination activities and provide feedback in the same way the other project activities are monitored.

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A demonstration project is funded to illustrate an innovative educational practice that has completed the research and development phase and is implemented for the purpose of ultimately packaging it for replication to encourage change and improvement. Therefore, the aim of the dissemination objectives should be to encourage adoption of the program in other sites and not merely to scatter awareness literature to the winds in the hopes that the program may take root in some places. In addition, the major thrust of dissemination activities should be to promote the adoption of the complete program rather than promote adaptations. This means that ne program should be flexible so that it is transportable into different environments. However, the program should have a framework that is identifiable. Within the framework, there can be some flexibility. For example, a demonstration project may have the following core objectives:

- Development of a solar energy textbook for use in a building trades course; and
- Development of tasks to give students hands-on, practical experience to supplement the solar energy textbook.

The flexibility of the program can be in the specific hands-on tasks used. But, if the tasks are dropped entirely, the program can no longer be identifiable because it does not have that component. The initial purpose of the demonstration project has been lost and it is not the same.

The goal of the demonstration project should be to reproduce the total educational innovation and its positive effects at other sites. If the program is disseminated as having optional components that may or may not be used, the stage is set for weak adaptations at the second generation from the demonstration project, and even weaker adaptations at the third generation removed, until the program all but disappears. On the other hand, if the major strategy of a demonstration project is to disseminate a complete program (with flexible components to facilitate transportability), it will be more likely that adoptions rather than adaptations will take root and strengthen the replication. Adoptions are not likely to occur unless it is the intention of the demonstration project to have them occur. Adaptions of the demonstration project should not be discouraged, but dissemination resources should focus on promoting adoption of the total program.

One method for encouraging adoptions that has been used successfully is to include in the program package all materials needed for implementing and evaluating the program. The package should contain all instructions and materials for implementation as well as for formative and summative evaluations. When evaluation materials are included, the adopter is able to replicate the impact evaluation as required in the final acceptable evidence.

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Most projects use a number of awareness activities such as making presentations at conferences or meetings, mailing brochures or newsletters, and submitting articles for publication. Once a school or district has decided to adopt the program, providing training and technical assistance to the adopting site is very important.

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The extent of these dissemination activities, however, varies considerably by the size and purpose of the demonstration project. Some local, state, and national dissemination strategies are discussed below.

Local Dissemination

For a small, local school district project that does not have state support and has only limited dissemination funds, the best strategy for encouraging adoptions is to concentrate dissemination efforts relatively close to the host site with a view to providing continued and more adequate training and technical assistance. This is important since limited communication is not very useful for promoting change.

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A National Diffusion Network (NDN) publication states that there are usually two types of training provided to adopters: "(1) start-up training for the staff in the adopting school to prepare them for implementation and (2) inservice or implementation training that reviews and expands on initial training and helps tailor the program to local needs."* With a limited budget, it will be easier to provide assistance to adopting sites that are not too great a distance from the host site.

Statewide Dissemination

Statewide dissemination of a program requires more resources and more time than local dissemination. Exhibit 16 illustrates the objectives of a plan that is being

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*NDN: a success story. San Francisco: Far West Laboratory, June, 1978, p.6.

successfully implemented in one state. In this state there are 15 area educational agencies (AEAs). Each AEA encompasses several local school districts. State funds are funneled to local school districts through the AEAs.

EXHIBIT 16

EXAMPLE OF STATEWIDE DISSEMINATION OBJECTIVES

EXHIBIT 16

EXAMPLE OF STATEWIDE DISSEMINATION OBJECTIVES

1. To develop a system for dissemination of curriculum materials and procedures through utilization of area school, area education agency and local school personnel so that they have the potential for use in a substantial number of classrooms.
2. To identify and orient through an awareness presentation five AEAs each year who will then initiate the system with an identified population.
3. To train instructors from five AEAs each year in the utilization of the curriculum materials.
4. To develop in the five AEAs each year the capability of disseminating the curriculum materials.
5. To demonstrate the effectiveness and utilization of curriculum materials in five AEAs each year.

Dissemination of the program is being implemented through the cooperative efforts of several departments within the

state education agency. The plan calls for the implementation of the program as a demonstration in two sites in one third of the AEAs in the state each year for three consecutive years. The two sites in each AEA will serve as demonstration sites for the AEA from which, hopefully, other adoptions will be forthcoming.

The strategy that is being used is to work through administrative levels. The state works through the AEA which, in turn, contacts local school district administrators. Funds are provided for initial implementation, then matching state and local funds are used for continuation.

Projects should also consider the use of regional mechanisms for more widespread dissemination. These mechanisms include Curriculum Coordination Units, regional commissions such as the Appalachian Regional Commission, and other consortia which may exist in different areas around the country.

National Dissemination

The National Diffusion Network (NDN) and The Center for Vocational Education at the Ohio State University provide a number of mechanisms for national dissemination of innovative programs.

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The National Diffusion Network (NDN)

The National Diffusion Network (NDN) of the Division of Educational Replication, USOE, is a nationwide system for the dissemination of validated exemplary educational programs. Programs are selected for NDN by the Joint Dissemination Review Panel (JDRP) which is made up of staff from the National Institute of Education and the U.S. Office of Education. In order to be selected

by the JDRP for national dissemination, a program must be able to provide evidence of program effectiveness. There also must be some indication that the program can be reproduced in other sites with the same effects. Unfortunately, few vocational education programs have been approved by the JDRP for national dissemination because they are seldom submitted and because those which are submitted frequently lack adequate evidence of effectiveness. The interim and final acceptable evidence presented in this monograph have been designed to assist vocational education demonstration projects and their third-party evaluators in providing this evidence.

When a program is approved by JDRP, it is funded as a Developer/Demonstrator in selected states where there is a need. During the adoption process, NDN provides ongoing assistance until the adoption is secure. Projects should work with the Bureau of Occupational and Adult Education towards getting approval from the JDRP and being disseminated through NDN.

The National Center for Research in Vocational Education

The Information Systems Division of the National Center for Research in Vocational Education at the Ohio State University has several information systems that can be used not only for the national dissemination of programs but should be accessed for information on the state of the art before a proposal is written. These services are described below:

National Center Clearinghouse: Responsible for the bimonthly publication of Resources in Vocational Education, which includes information about research and instructional materials, ongoing R&D projects, and resource organizations; a system to make military-developed curriculum materials available to civilian occupational education programs; a system to track ongoing state- and federally-administered R&D projects; and annual reports of federal- and state-administered R&D projects.

Dissemination and Utilization: Responsible for the development and operation of a collaborative nationwide dissemination and utilization system to facilitate the location and use of vocational education R&D products and information; the study of the distribution, utilization, and impact of vocational education R&D; the provision of leadership through training and liaison to the state Research Coordinating Units and Curriculum Coordination Centers; and the development of a varied series of information products which transmits knowledge in critical issues and problems in vocational education to diverse audiences.

Resource Referral Service: Responsible for the provision of information and assistance about resource organizations to regional exchange contractors in the NIE-sponsored Research and Development Exchange (RDx); the preparation of annotated, topical mini-lists of resource organizations; the provision of information on upcoming educational meetings, seminars, and conferences; and the preparation of catalogs on information resources for educators.

ERIC Clearinghouse on Adult, Career and Vocational Education: Responsible for the acquisition, selection, and processing of research, instructional and related materials for announcement in Resources in Education (available from the ERIC Document Reproduction Service); the annotation of journal articles for announcement in Current Index to Journals in Education; the provision of training and services to users; the conduct of computer searches of the ERIC document collection for users on a cost-recovery basis; preparation of information analysis papers; and the linkage to the professional communities in career education, adult and continuing education and vocational and technical education.

e. Planning for Institutionalization

Planning for institutionalization should begin with the inception of the idea for the project in the pre-grant period. The project being proposed should address a priority need in the local school district or state and, thus, the local or state education agency should have plans for institutionalizing the program into the ongoing educational system when initial funding is concluded. In Chapter II several indicators of efforts toward institutionalization were mentioned including acquiring funds for continuation, infusing the program into the ongoing curriculum, providing for continuous training and technical assistance as needed, and providing for the periodic review and updating of the program. During the planning/start-up phase of the grant period, activities which will be pursued in an effort to institutionalize the program should be further enumerated in the management plan. These activities may include building support among board members for the future funding of the program, enlisting the support of teacher education institutions

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for future training purposes, or outlining procedures for training new teachers and reinforcing program use.

2. Implementation Phase

The second year of the grant period is called the Implementation Phase. The project should be fully implemented in this year. Evaluating and monitoring progress, communicating effectively, and building support are the keys to project success. These functions are discussed below.

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a. Evaluating and Monitoring Progress

By the second year of the project, the formative and summative evaluations should be routinized. The evaluation schedule for the second year data collection should have been drawn up cooperatively by the evaluator and the project director, and infused into the management schedule. Forms for the collection of data and for the recordkeeping system which were designed and pilot tested in the first year of the grant should now be in regular use.

The formative and summative evaluation schedules should be designed to generate a series of short reports to provide current, useful feedback for project implementers so potential problems can be identified and corrective action taken in a timely manner. A long lapse between data collection, analysis, reporting and feedback can limit impact and, therefore, should be avoided.

Suchman suggests analyzing a program's progress on four dimensions. Applying his approach to demonstration projects, these dimensions are:

- Attributes of the program itself. This type of evaluation breaks down the components of the program itself to determine what aspects contribute to or detract from the overall program effects. For example, poor scheduling of students may be negating some of the otherwise positive effects of the program.
- Population exposed to the program. This dimension specifies the attributes of the program participants. Which people are most affected by the program? Whom does the program succeed in reaching and whom doesn't it reach? Does the target population represent the end product or are they the influencers of others?
- Situational context within which the program takes place. Here the conditions under which the program is more or less successful are specified such as the locale or timing. Would the program be equally successful under different conditions?
- Different kinds of effects produced by the program. Program effects will address the interim acceptable evidence. Suchman gives the following ways that effects can be analyzed:
 - Unitary or multiple effects
 - Unintentional or side-effects
 - Duration of effects
 - Type of effect (cognitive, attitudinal, behavioral)

In addition, the extent to which the standards for dissemination activities and efforts toward institutionalization should also be addressed.

It is important to accurately document the findings of the formative and summative evaluations and any corrective action that is taken so that a relationship between what was done and the results can be established. This kind of information is not only useful in the developmental process but also can add more meaning to the findings from the summative evaluation.*

*This material is adapted from Suchman, Edward A. Evaluative Research. New York: Russell Sage Foundation, 1967, pp.66-67.

The monitor should receive and review all formative and summative evaluation reports. He/she should assess the extent to which project objectives are being reached and expected project impact attained. He/she should consult with the project implementers to work out problems and develop corrective strategies if the project seems to be heading off track.

b. Communicating Effectively

The project director should create a climate that encourages effective communication among staff members and other key people such as teachers, students, parents, and advisory committee members. Effective communication promotes understanding. Information should be given regularly on the progress of the project and suggestions on how to improve the project should be encouraged, particularly from users and potential users.

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Communication can be formal or informal, oral or written. Among the various types of communication, a weekly staff meeting has been found to be very effective for some projects. The purpose of staff meetings is to identify problems, disseminate information, and formulate plans. The findings from the formative evaluation can be a valuable input for these meetings. By providing a forum for the exchange of ideas, the project director can improve the director's internal problem-solving capabilities and, additionally, enhance staff motivation.

c. Building Support

If the program is to have a widespread, lasting effect, implementation of the plans for dissemination and institutionalization that were worked out in the first year of the grant period should begin in the second year. In many cases, these activities will deal primarily with

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the development of dissemination materials, making people aware of the project, building support, and preparing for more intensive demonstration/dissemination activities in the third year.

While dissemination activities are usually undertaken to encourage the adoption of the program in other sites, other activities must be undertaken to ensure the continuation of the program at the demonstration site. Since some of the same strategies and materials can be used for both purposes, these activities should be worked out cooperatively between the project director and the disseminator (although in most cases, this is the same individual). For example, awareness activities can be coordinated to both encourage adoptions and build support for continuation and institutionalization.

Dissemination activities should be planned and implemented with frugality so that the greatest return can be realized from the resources available. This requires identifying target audiences for dissemination materials and developing the materials to meet the needs of these audiences.

Awareness materials and activities should cost less than developing program packages and training materials and conducting workshops. However, a dissemination budget can be drained by an overzealous, poorly-planned awareness campaign.

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Awareness activities should present the program to the appropriate audiences as one that was designed to meet an identified educational need. They tell the story of the project in a cost-effective manner. Some of the these activities are discussed below.

Develop and use a mailing list of individuals in the local and state vocational education community. The list should contain the names of persons who are in a position to provide support for the project such as business/industry labor, and civic leaders; local and state educational administrators/decision-makers; teachers; and legislators. Information to cultivate understanding and support for the program should be sent to the individuals on this list.

Make presentations at meetings and conferences. Presentations should be made at vocational education meetings, conferences, and workshops. In addition, presentations before local business/industry and civic groups can build community support which, in turn, may influence educational administrators or elected representatives.

Write articles for newsletters, journals, and periodicals. Articles that appear in newsletters, journals, and periodicals can make people aware of the project. Regularly issued newsletters can keep people informed of the progress of the project.

Dissemination activities should be evaluated regularly to assure that dissemination objectives are being met and that activities are effective. In addition, records should be kept of all dissemination activities and should include the names, organizational affiliations, addresses, and telephone numbers of persons who receive information about the project. These records can be used for followup and evaluation.

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3. Demonstration/Dissemination Phase

The third and final year of the grant period is called the Demonstration/Dissemination Phase. In addition to continuing regular project services to the target population, demonstration/dissemination activities should be at their peak in the third year. The summative evaluation should be continuing; efforts for institutionalizing the program at the host site should continue; and transitional activities from the grant period should proceed.

a. Demonstration

The project should be open during the third year to allow potential adopters to visit and see the project in action. Plans should be made to greet visitors and spend some time with them concerning their needs and assisting them in understanding the goals and operations of the project. Materials should be conveniently displayed for inspection and samples should be made available for visitors to take with them. The sample materials should contain the name, address, and telephone number of a project contact person for later reference. Keeping a log of visitors will facilitate followup and documentation of the number of visitors and their organizational affiliation.

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Several effective strategies have been used for demonstrating projects. One is to have the superintendent, or some other administrator, from the host site invite individuals with equivalent positions to visit the project. This approach is even more effective if a teacher who is known for his/her leadership capabilities is invited to accompany each administrator. Besides superintendents, other officials who might be interested in visiting the project are principals and members of boards of education. If the project has potential for statewide dissemination, appropriate individuals from the division of vocational education, the state manpower office, the state legislature, or other appropriate state level officials may be invited.

b. Dissemination

By the third year of the project, awareness activities will continue but activities relating to establishing adoptions and continuing the program at the demonstration site should intensify. For example, some potentially

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adopting sites may be beyond the awareness stage and be at the decision-making stage where they will require more technical information about the program. Others may have decided to adopt and require specific training and technical assistance.

It should be possible to include valuable technical information in the third year dissemination literature if this information has been appropriately documented during the project's second year of operation. Besides well-organized information on project procedures, the material should include program costs and reliable outcome data.

The cost data should be presented in a way that would enable potential adopters to estimate the cost of implementing their own program. Simply giving per pupil costs without a breakdown of how these costs were determined is not sufficient. Information that describes the staff, facilities, materials, and other cost factors for implementing the program should be included with the actual dollar costs for operating the program at the demonstration site so that costs for adopting the program in another district where costs may be different can be estimated. As an illustration, staff salaries usually differ from one school district to another. Therefore, staff job descriptions and persondays required for implementing the program would give the adopter better information from which to estimate costs.

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With the pilot testing of the evaluation plan and the selection of the comparison and participant groups for the second year occurring late in the first project year, the second year should yield reliable and valid outcome data that can be used as evidence of the project's

effectiveness. These data should be included in the dissemination literature.

Training of potential adoptors is extremely important. To the extent possible, demonstration projects should include in their budgets funds for decision-makers and teachers to attend training workshops. These funds would be used for travel and for payment of substitute teachers to replace the regular teachers while they attend the workshops. Demonstration projects, however, should be very selective in how they use these funds. The money should not be used for awareness training, but only for those individuals who are serious about adopting the innovation.

Provisions should also be made for training and technical assistance to adopting sites during their first year of program implementation. This assistance is needed until the program takes root in its new setting and is strong enough to survive on its own. In addition, once a site has decided to adopt a program, the adopting site may want to contract with the demonstration program to provide technical assistance on an as needed basis.

c. Evaluation

Documentation of interim acceptable evidence of project success will be the most important evaluation product in the third year. The project director, the evaluator, and the monitor should make sure that evaluation reports have been accurately and clearly prepared and that the groundwork for collection of the final acceptable evidence has been completed.

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d. Institutionalization

The third year is the last year of the grant period. At the end of the year, the program will be continued at its

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present level, increased, decreased, or terminated. Provisions must be made for this transition. Besides arranging for alternative sources of funding, there may be staff changes, changes in facilities, etc., that will require the attention of the administrators. Provisions for training new staff must be built into the program. Staff turnover will occur on a regular basis and the longevity of the program should not depend on the individuals who participated in the original demonstration. Thus, continuous staff training is extremely important to long-term success. In addition, mechanisms should be built into the program for reinforcing and strengthening the program among present staff through the use of workshops, meetings, and seminars.

C. THE POST-GRANT PERIOD

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The post-grant period is defined as the two-year period which follows the conclusion of the demonstration grant. During this time period, the project, if successful, will be continued at the demonstration site with other funds and implemented at a number of adopting sites. The primary activity of concern, however, to the original demonstration project is the collection of data for final acceptable evidence of project impact.

To recapitulate, final acceptable evidence is composed of three components (utilization, long-term impact, and continuation/adoption impact) which address the following questions:

- How extensive is the spread of the innovation?
- Did the original demonstration project have a significant long-term impact on the target population?; and
- Does the innovation have a significant short-term impact on the target population when it is replicated?

The collection of data during the post-grant period to answer the above questions should be the responsibility of the project monitor at the agency which provided the funding for the demonstration grant. Since the demonstration grant will have been completed, it is unreasonable to expect the original grantee to be responsible for collecting, analyzing, and reporting these data. Thus, the funding agency should be prepared to collect the data itself or set funds aside for contracting for this work with the original grantee or a third-party evaluator. In fact, funding of the demonstration project's original third-party evaluator (if the project had one) would be an optimal choice. This would result in a considerable savings in start-up effort since the original

evaluator would be thoroughly familiar with the project and the original evaluation plan. Data should be collected within two years of the conclusion of the demonstration grant period. Waiting any longer will increase the costs and difficulty of tracking the original demonstration project target group to determine long-term impact. In addition, waiting longer may affect data on extent of utilization if new curriculum materials are developed and adopted during this interim period, as may be expected in new and rapidly developing fields.

As stated in Chapter II, the most efficient approach to the collection of interim and final acceptable evidence of project impact is to incorporate it in a single evaluation design the framework of which would be outlined in the pre-grant or proposal development stage by the project planners. This evaluation framework would be expanded and finalized during the planning/start-up phase of the grant period by the project implementers and evaluators. With this approach, the evaluation requirements and the standards for the project would be specified explicitly in the early project stages. Similarly, the need for the collection of data for final acceptable evidence would be apparent and the project monitor at the funding agency could begin to budget for the eventual collection of these data. Whether the funding agency collects the data itself, contracts with the original project grantee, or contracts with a third-party evaluator, the project monitor should have the ultimate responsibility for seeing that the data are collected and analyzed in accordance with the over-all evaluation plan and that the results are written up in such a manner that one can judge whether or not the standards for final acceptable evidence of project impact have been met.

D. ALTERNATIVE TIMING OPTIONS

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In this monograph, a three-year funding period for demonstration projects was assumed for discussion purposes. This time period was selected since it has been used extensively by the U.S. Office of Education and a number of state agencies. However, other timing options for funding demonstration projects should also be considered. A project's length should be determined by its scope and/or complexity, and the funding agency should avoid a system that lacks the flexibility to accommodate these variations. In this section several questions are addressed which bear on alternative timing options for demonstration projects.

HOW WELL DEVELOPED ARE THE PROGRAM MATERIALS THAT ARE TO BE USED?

The purpose of a demonstration is to serve as an outward expression or operational evaluation of an educational practice that has already been developed in order to encourage replication in other schools or school districts. This means that program materials, such as classroom curriculum or staff development materials, should have already been developed in a research and development phase prior to funding.

In some cases, materials may need to be modified before the program can be implemented. In other cases, program materials will be ready for use without modification. To illustrate, a state may have a long range improvement plan which includes research and development of an innovation, followed by demonstration and statewide dissemination. During the research and development phase all program materials should have been designed specifically for use in the state as part of this long range plan. As a result, the program should be able to move into the demonstration phase without revisions being made in the materials. On the other

hand, a school district that is using a packaged program from a curriculum laboratory or university may require some time to modify the package to fit its particular needs before the program can be implemented.

Thus, one factor that influences timing is the amount of revision that may be required in the materials before the program can be fully implemented. Although revisions should be minimal, the time required for this task varies.

HOW COMPATIBLE IS THE PROGRAM WITH THE ONGOING SYSTEM?

One of the criteria for funding a program should be its compatibility with the established system and the system's long range plans. But, compatibility is a matter of degree. An innovation by its very nature is new to the system and will require a period of adjustment before it reaches a point where it can be demonstrated. As an example, introducing an individualized competency based approach to teaching into a school district where it has never been used will require more time before it can be opened for demonstration than a program introducing new competency based components into a school system that has been using this approach for years.

Therefore, the degree to which an innovation is compatible with the ongoing system affects the time it will take to prepare the program for demonstration and, in turn, is a factor in specifying appropriate timing.

WHAT IS THE EXTENT OF THE CURRICULUM?

Demonstration projects vary by the extent of the curriculum being implemented. Some curricula may take six weeks to teach; others may take a semester or a year. Since a program usually needs to be implemented for one or two complete cycles before it is ready to be opened for demonstration, the time it takes to complete a cycle should affect the length of

the grant period. To illustrate, a six-week program may be ready for demonstration at the end of the first year of funding whereas a year-long program may not be ready for demonstration until the third year. Thus, the time it takes to complete a cycle of the curriculum is another consideration in timing.

WHAT TYPE OF EVALUATION WILL BE REQUIRED TO ESTABLISH THE PROGRAM'S CREDIBILITY AT THE DEMONSTRATION SITE BEFORE IT IS DISSEMINATED?

It is important that valid and reliable outcome data be available concerning the effectiveness of the program in its new setting before it is open for demonstration. The length of time it takes to collect these data will depend on a number of factors such as the time-span of the curriculum cycle, the selection of an evaluator, completion of the evaluation plan, availability of measurement instruments, and the selection of a comparison group (where appropriate). It will take less time to obtain outcome data for a six-week program that has a completed evaluation plan with standardized instruments, than it will to obtain data for a program that is implementing a one-year curriculum and must select an evaluator, finalize the evaluation plan, order measurement instruments, and select a comparison group.

Due to these variations, the type of evaluation that is required to establish the program's credibility at the demonstration site should be considered in specifying appropriate timing.

HOW EXTENSIVE ARE THE DISSEMINATION PLANS?

Demonstration projects also vary in the extent of their dissemination plans. A small project in a local school district may plan to concentrate most of its dissemination activities in adjacent school districts. Other projects may have plans for statewide dissemination. As a result, the

magnitude of a project's dissemination plans should be another timing consideration.

TIMING RECOMMENDATIONS

In general, for three-year projects, the last year has been reserved for demonstration and dissemination. This includes disseminating materials, opening the project to visitors, conducting workshops, making presentations, and providing training and technical assistance to potential adopters. Project implementers and monitors, however, have indicated that a one-year dissemination effort is insufficient for establishing a significant number of well-rooted adoptions. At least one or two additional years are required to provide the assistance that adopters need to implement the program. Since it is unreasonable to expect that projects use local funds for dissemination, suggestions have been made to phase out external support for implementation activities as the program is infused into the ongoing system, but continue grant support for dissemination activities.

Exhibit 17 illustrates a five-year funding model. It was designed to reduce the fiscal shock to a local school district of incorporating a new program into its ongoing system and to maximize the effectiveness of dissemination activities. The model also specifies several decision points for the funding agency and time frames for the collection of interim and final acceptable evidence of project impact.

1. Program Implementation

As the exhibit shows, the project receives 100% support from the external funding agency for program implementation during the first two years. Local funds for implementation begin to be phased in at the beginning of the third year. The program receives 60% of its funds from the external funding agency in

EXHIBIT 17
FIVE-YEAR FUNDING MODEL

ACTIVITY	YEARS				
	1	2	3	4	5
Program Implementation	100% Grant Funds	100% Grant Funds	40% Local Funds 60% Grant Funds	60% Local Funds 40% Grant Funds	100% Local Funds
Dissemination	100% Grant Funds	100% Grant Funds	100% Grant Funds	100% Grant Funds	100% Grant Funds

Collection of Interim
Acceptable Evidence

Collection of Final
Acceptable Evidence

Decision Points



the third year and 40% in the fourth year. By the fifth year implementation activities are totally supported by local funds.

Additional grant funds are not required for program implementation in this model (as compared to the three-year model) because grant funds for implementation are split 60-40 between the third and fourth years rather than 100% the third year.

2. Dissemination

The project will receive 100% grant funding for dissemination throughout the five years. Years one and two will be devoted to finalizing dissemination plans and developing dissemination materials. Dissemination activities will begin to peak in the third year, mostly concentrating on awareness strategies. The major thrust in the fourth and fifth years would be on providing training and technical assistance to adopting sites. The funding for some of these later activities could be partially provided by the adopting sites.

3. Interim Acceptable Evidence

The collection of data for interim acceptable evidence will occur in the second and third years.

4. Final Acceptable Evidence

Data for the final acceptable evidence will be collected in the fourth and fifth years. During this time, the project will still have a vested interest in proving its effectiveness due to the continued funding for dissemination activities. The project will also be in a position to participate in data collection activities for determining final evidence of impact.

5. Decision Points

There are four points at which the funding agency can assess progress and impact, and can decide whether or not to continue funding.

Point 1: Before the project is funded. A decision is made whether to initially fund the project based on a review of the proposal.

Point 2: End of the second year. A decision is made whether to continue funding based on formative evaluation data and documentation of interim acceptable evidence. Reliable formative data can provide information on whether the project is meeting its objectives in a timely fashion. Good outcome data from interim acceptable evidence should not be expected before the end of the second year for most projects. If the data indicate that the program is making the expected significant improvements in the target population and all of the objectives are being met, then a decision can be made to continue funding. If this is not the case, then the funding agency may decide to terminate support.

Point 3: End of the third year. Collection of interim acceptable evidence will be completed. Valid outcome data should be available. Also, there should be evidence of attempts made towards institutionalization and the quality and extent of dissemination activities should be documented. These factors can be used to make a decision concerning continuation of funding. In addition, the funding agency may decide to provide support for collection of the final acceptable evidence. If the interim acceptable evidence does not indicate that the program is effective, the funding agency may make a decision to terminate funding.

Point 4: End of the fourth year. Based on the number of actual and potential adoptions and their need for technical assistance, as well as the data collected for the final acceptable evidence of project impact, the funding agency may decide whether or not to fund a fifth year.

This model should improve the likelihood of increased project effectiveness because it provides for:

- A partnership arrangement between the funding agency and the grantee for overall project costs;
- Stronger support for dissemination; and
- Several decision points for monitoring the project's progress.

Although this model will cost somewhat more than the three-year model due to the extension of funding for dissemination activities into the fourth and fifth years, the model should result in an increased probability of obtaining quality adoptions. Thus, it is recommended that funding agencies consider this model, perhaps funding fewer projects in order to control costs.

CHAPTER IV

SUMMARY

The purpose of this monograph is to propose a set of criteria for measuring the impact of vocational education demonstration projects and to discuss the activities and functions of key individuals in achieving improved impact. The criteria proposed for measuring impact address the requirement in the Program Improvement Section of Title I, Part B, Subpart 2 (Programs of National Significance) of the Vocational Education Act of 1963, as amended, which states that:

"The Commissioner shall not make a grant...unless the applicant can demonstrate a reasonable probability that such grant will result in improved teaching techniques or curriculum materials that will be used in a substantial number of classrooms or other learning situations within five years after termination of such grant."

The same requirement is called for in Title I, Part A, Section 131(a) which authorizes a state-administered research program and Section 133(a) which authorizes a state-administered curriculum development program.

Criteria, standards, and documentation which define interim and final acceptable evidence of project impact have been developed. Interim acceptable evidence is that evidence which should be available during the last phases of the demonstration grant period. It has three components:

- Demonstration Impact;
- Dissemination Activities; and
- Efforts Toward Institutionalization.

Final acceptable evidence is that evidence which should be available within five years of the conclusion of the demonstration grant. It also has three components:

- Utilization;
- Long-Term Impact; and
- Continuation/Adoption Impact.

The standards proposed in this monograph are minimum. More specific standards can be set by funding agencies. When more specific standards are set, the standards by which a project will be judged should be set forth in the project guidelines or request for proposal issued by the funding agency.

In order to discuss the activities and functions of the key individuals in the planning, implementation and evaluation of a demonstration project, a three-year demonstration project grant period was assumed, preceded by a pre-grant period and followed by a post-grant period for the collection of final acceptable evidence of project impact. The pre-grant period is used for initial project planning and proposal development. The following must be adequately addressed during this period in order to increase chances for project success. Each should be discussed in the project proposal.

- Evidence of need for the proposed program;
- Educational significance of the proposed program and its appropriateness for meeting the stated needs of the target population;
- Project objectives and activities to meet these objectives;
- Project staff and facilities;
- Project management plan;
- Project evaluation plan;
- Commitment of the applicant organization to the project and its long-term continuation; and
- Project demonstration and dissemination plan.

A set of specific proposal review criteria which addresses the above points and which may be used by funding agencies in making grant decisions is included in Appendix B of this monograph.

The three-year grant period is divided into three one-year phases, as follows: Planning/Start-Up Phase; Implementation Phase; and Demonstration/Dissemination Phase.

The key activities of the Planning/Start-Up Phase are:

- Interpretation of the project proposal so that all the key actors understand its intent, how it fits into the long-range plans of the school district, and each individual's role and responsibility;
- Refinement of the management plan, including further specification of project objectives and activities, scheduling, and staffing;
- Refinement of the evaluation plan and conduct of a pilot test of that plan;
- Refinement of the dissemination plan; and
- Development of a plan for program institutionalization.

Key activities during the Demonstration/Dissemination Phase are:

- Continuation of the dissemination of project materials;
- Opening up the project to visitors from potentially adopting school districts or schools;
- Continuation of project evaluation in order to provide documentation of interim acceptable evidence or project success; and
- Preparation for continuation of the project after conclusion of the demonstration grant.

The post-grant period immediately follows the conclusion of the demonstration grant. The primary activity of concern during this period is the collection of final acceptable evidence of project impact. Since, by definition, the demonstration grant period will have been concluded, one cannot expect the grantee to collect these data. Thus, it should be the responsibility of the agency which funded or administered the original grant to collect, analyze, and report on the required data. This work can be accomplished by the funding agency staff or through a contract with the original grantee or third-party evaluator.

The discussions in this monograph have assumed a three-year demonstration grant since that particular timing model has been used by the U.S. Office of Education in past funding programs. The three-year period is sufficient to

startup, implement, and disseminate information on many projects and to provide evidence of impact. However, project length should depend on the scope of the project, with small and uncomplicated projects being allowed less time.

In general, for three-year projects, the last year has been reserved for demonstration and dissemination. This includes dissemination of printed materials, conduct of workshops, presentations to visitors, and training and technical assistance to potential adopters. In many cases, this period of time is insufficient for obtaining a significant number of adoptions. Thus, consideration should be given to funding demonstration projects for an additional two years, specifically for demonstration/dissemination activities to encourage adoptions.

REFERENCES

1. GENERAL ACCOUNTING OFFICE. Career education: status and needed improvements. Washington, D.C., General Accounting Office, Division of Manpower and Welfare, 1976.
2. GOLIGHTLY, Henry, and HORST, John. Organization planning. In H.B. Maynard, (Ed.), Handbook of business administration. New York: McGraw-Hill, 1970.
3. HEYEL, Carl (Ed.). The encyclopedia of management. New York: Van Nostrand Reinhold Co., 1973.
4. MILLER, Robert W. PERT, CPM, and other networking techniques. In H.B. Maynard, (Ed.), Handbook of business administration. New York: McGraw-Hill, 1970.
5. NATIONAL ACADEMY OF SCIENCE'S COMMITTEE ON VOCATIONAL EDUCATION RESEARCH AND DEVELOPMENT. Assessing vocational education research and development, 1976.
6. NDN: a success story. San Francisco: Far West Laboratory, June, 1978.
7. RIVLIN, A. and TIMPANE, P.M. Planned variation in education: an assessment. In Brookings Institute (Eds.), Planned variation in education: should we give up or try harder. Washington, D.C.: Brookings Institute, 1975.
8. ROSS, J.A. Decision rules in program evaluation. Evaluation Review, 4(1), 1980.
9. SILVERMAN, Melvin. Project management (Vol. 2). New York: John Wiley & Sons, 1976.
10. SUCHMAN, Edward A. Evaluative research. New York: Russell Sage Foundation, 1967.
11. TALLMADGE, G.K. The joint dissemination review panel ideabook. U.S. Department of Health, Education, and Welfare. Washington, D.C.: U.S. Government Printing Office, October, 1977.

APPENDICES

APPENDIX A: GLOSSARY OF TERMS

APPENDIX B: RECOMMENDED CRITERIA FOR REVIEWING
DEMONSTRATION PROJECT PROPOSALS

APPENDIX C: BIBLIOGRAPHY

APPENDIX A
GLOSSARY OF TERMS*

ACTIVITIES: Procedures that are required to accomplish a project's objectives.

ADOPTION: The implementation of an innovation, with principle elements relatively in tact, at sites other than the demonstration or host site.

AREA EDUCATIONAL AGENCY (AEA): An educational jurisdiction within a state that encompasses several local educational agencies.

ATTRITION RATE: The rate at which individuals drop out of a program or out of an evaluation's participant or comparison group.

BASELINE DATA: Data that indicate the level of performance of a population or group prior to a program intervention. The data may be based on pretest measures or routinely kept records.

COMPARISON GROUP: A group of individuals not participating in a particular program who are matched on pertinent characteristics to a group of individuals who are participating in the program for the purpose of evaluating the effects of the program.

CONTINUATION: Provision of project resources at the demonstration or host site after the demonstration grant period has terminated.

CONTINUATION/ADOPTION IMPACT: A component of final acceptable evidence that assesses the extent of the short-term effects of a program on target group(s) from continuing and adopting sites.

CRITERION: A measure or variable on which judgements of success, excellence, or attainment are based.

DEMONSTRATION/DISSEMINATION PHASE: The last stage of the demonstration grant period during which information is disseminated and visitors can observe the project in its own setting for possible replication in other schools or school districts.

DEMONSTRATION IMPACT: A component of interim acceptable evidence that assesses the short-term effects of a demonstration project on the target group(s).

DEMONSTRATION PROJECT: A project designed to serve as an outward expression of an educational practice with the intent of ultimately packaging it for replication at other schools or school systems.

*This glossary presents definitions of terms as they are used in this monograph.

DISSEMINATION: The process of distributing information concerning an innovation for purposes of encouraging adoptions.

DISSEMINATION ACTIVITIES: A component of interim acceptable evidence that assesses the quality and extent of the dissemination activities of a demonstration project.

DISSEMINATION MATERIALS: Materials that are to be distributed to provide information, training, or technical assistance for the purpose of encouraging replications of a project.

DISSEMINATORS: Those persons who provide information, training, or technical assistance about the project to personnel from other schools and school districts.

DOCUMENTATION: Information or data relative to the extent to which a standard has been met.

EFFORTS TOWARD INSTITUTIONALIZATION: A criterion of interim acceptable evidence that assesses the extent of attempts being made to ensure program longevity after completion of the grant period.

EVALUATION: The process by which the effectiveness of a program is measured and analyzed.

EVALUATORS: Project or non-project personnel who assess the effectiveness of the project.

FIELD TEST: The trial of procedures and instruments in a natural setting to determine their practicality.

FINAL ACCEPTABLE EVIDENCE: That evidence of project impact which should be expected within five years following completion of the grant period.

FORMATIVE EVALUATION: The process by which progress toward the achievement of the objectives is assessed and feedback is provided for the purpose of taking corrective action, if necessary.

GANTT CHART: A planning calendar which visually displays the relationship of time lines to the various project tasks.

GOAL: The general purpose(s) of the project.

GRANT PERIOD: The time during which a project receives federal or state funding.

HOST INSTITUTION: The organization within which the project functions, e.g., the school system.

HOST SITE: The location of the demonstration project.

IMPACT: Any significant change in the target population or target system, immediate or long-term, anticipated or unanticipated, which can be attributed to an intervention.

IMPLEMENTATION PHASE: The operational stage of the demonstration project during which services are delivered to the target group in accordance with the outcome objectives of the project.

IMPLEMENTERS: The project director and staff who are responsible for operating the project.

INNOVATION: A new method, procedure, or technique.

INSTITUTIONALIZATION: The process of establishing a practice as a common procedure in a social or educational system.

INTERIM ACCEPTABLE EVIDENCE: That evidence of project success which should be expected during the last phase of the grant period.

INTERVENTION: The planned introduction of a practice or product with the purpose of changing the behavior of a previously defined target population.

JOINT DISSEMINATION REVIEW PANEL (JDRP): A panel consisting of staff from the National Institute of Education and the U.S. Office of Education who reviews evaluations of educational innovations and whose approval is necessary before federal funds can be spent for national dissemination of an innovation.

LEVEL OF DETAIL: The degree of specificity of a concept, measure, or plan.

LOCAL EDUCATIONAL AGENCY (LEA): A local school district and/or the various subdivisions therein.

LONG-TERM EFFECT: Any significant change in the target population or target system, anticipated or unanticipated, which is attributable to an intervention and measurable a year or more after exposure to the intervention.

LONG-TERM IMPACT: A component of final acceptable evidence that assesses the extent of long-term effects of the program on the target group(s).

MEASURABLE OBJECTIVE: The specification of the extent of expected outcomes from a program intervention.

MONITORS: Officials of a funding agency who ensure that the project objectives, activities, budgets, and other aspects of the project proposal are being followed.

NATIONAL DIFFUSION NETWORK (NDN): A nationwide system of the Division of Educational Replication, U.S. Office of Education, that disseminates information on exemplary educational programs approved by the Joint Dissemination Review Panel.

NEEDS ASSESSMENT: The evaluation of the discrepancies between existing and desired conditions.

OBJECTIVES: The specific purposes of the project which are directly related to the goal(s).

OPERATIONAL: Relating to the definition of a concept in functional or behavioral terms.

ORGANIZATION CHART: A chart that defines the levels of responsibility and formal lines of communication among project staff positions.

OUTCOME OBJECTIVES: The specification of expected effects of the intervention on the target group(s).

OUTCOMES: The effects of an intervention as measured in an evaluation, e.g., student outcomes.

PERSONLOADING CHART: A chart which shows the number of workdays that will be required by each staff position to accomplish the various project tasks.

PERT CHART: A networking system for mapping the interrelationship of project events to assist in scheduling.

PILOT TEST: An early trial of procedures and instruments on a small sample of individuals from the target population to determine their practicality for more widespread use.

PLANNERS: Those persons who participate in the development of a detailed plan or proposal for a demonstration project.

PLANNING/START-UP PHASE: This is the first phase of the grant period which includes such activities as finalizing plans, hiring staff, acquiring facilities and materials, identifying and recruiting program participants, and putting the program in place.

POSITION DESCRIPTION: A definition of the duties a person is expected to perform.

POST-GRANT PERIOD: The period following completion of the grant period during which final acceptable evidence is collected.

PRE-GRANT PERIOD: The time during which ideas are formally organized and planning is begun including identification of needs, writing and submitting a proposal to the funding agency, and awaiting funding.

PROCESS OBJECTIVES: The specification of procedures required to accomplish the outcome objectives.

PROGRAM: The substance and procedures of an intervention which is implemented by the demonstration project and about which information is disseminated to other schools and school districts.

PROGRAM EFFECTIVENESS: The number of persons influenced and the strength of the influence on individuals exposed to the program.

PROGRAM PACKAGE: An organized collection of program materials and instructions that will facilitate the replication of the program in new sites.

PROJECT: A planned undertaking with a limited life span that is designed to accomplish a specific goal.

REPLICATION: A reproduction.

RESEARCH AND DEVELOPMENT: The process during which an educational practice or product is designed and tested on a small population. Research and development precedes demonstration of an educational practice or product in a more natural school setting.

SHORT-TERM EFFECT: Any significant change in the target group or target system, anticipated or unanticipated, which is attributable to an intervention and measurable during or immediately following exposure to the intervention.

STANDARD: A degree, level, or requirement of success, excellence, or attainment.

STATE EDUCATIONAL AGENCY (SEA): The state level department of education and/or the various subdivisions therein.

SUMMATIVE EVALUATION: The process by which achievement of the objectives is assessed at the conclusion of the project.

TARGET GROUP: The individuals from the target population who actually participate in the program.

TARGET POPULATION: The universe of individuals for whom the program is designed.

TASKS: The detailed steps required in carrying out each activity.

TECHNICALLY SOUND EVALUATION PLAN: An evaluation plan which produces valid and reliable data in order to attribute effects to an intervention.

TRANSPORTABILITY: A characteristic of a practice, product, or program that allows it to be widely and readily adopted.

UTILIZATION: A component of final acceptable evidence that assesses the extent of utilization or spread of a program including adoption at new sites and continuation at the host site.

APPENDIX B
RECOMMENDED CRITERIA FOR REVIEWING
DEMONSTRATION PROJECT PROPOSALS

APPENDIX B

RECOMMENDED CRITERIA FOR REVIEWING DEMONSTRATION PROJECT PROPOSALS

The criteria below are recommended for use by funding agencies for reviewing demonstration project applications or proposals. They were derived directly from the items which were discussed in Chapter III as being particularly important to the success of demonstration projects and which should be covered or addressed in the development, during the pre-grant period, of grant proposals or applications. The criteria are sufficiently general in nature to be applied to most projects. Additional criteria may be added by funding agencies for specific types of projects or for specific program or legislatively-mandated requirements. Appropriate weights should be assigned to the criterion categories by funding agencies for specific types of projects. It was felt that proposing one set of weights for judging proposals for all possible types of demonstration projects would be inappropriate. For example, staffing and facilities may be more important for one type of project than for another.

The criteria and weights to be used in judging proposals should be specified at the time the RFP is prepared. They should appear in the RFP so that each applicant organization will be aware of exactly how its proposal will be judged.

PROPOSAL REVIEW CRITERIA

CRITERION CATEGORY 1 - EVIDENCE OF NEED

CRITERION I-A The proposal focuses on the announced priority.

The proposal should be relevant to the specified priorities and fulfill the requirements set forth in the RFP.

CRITERION I-B Need is clearly defined with respect to the population to be served.

The needs of the target population should be clearly defined. The discussion should include a description of the characteristics of the population to be served, who will be included, and who will not be included.

CRITERION I-C Sufficient evidence of need within the demonstration project target area is provided.

Whenever possible the extent of need within the demonstration project target area should be supported by reliable evidence which appropriately addresses the population to be served. Objective data are preferable to the judgments of selected experts.

CRITERION I-D The proposal addresses the seriousness of need in the target area and previous attempts the applicant organization and others have made to solve the problem on their own.

The social significance of the need, previous attempts to provide solutions, the absence of substitute solutions, the urgency of the problem, and the newness of the proposed intervention in the target area and the state should be demonstrated. Need may be considered as the difference between what is being provided and what should be provided. Evidence of need for the project may involve economic, social and/or environmental impact considerations. The applicant should state whether or not this, or a similar proposal, has been submitted to the agency or another agency or organization; and whether or not this proposal is an extension of, or an addition to, a previous or existing project. If it is, details should be provided.

CRITERION I-E Sufficient evidence of need for populations beyond the demonstration project target area is provided.

Whenever possible, reliable evidence should be provided which indicates the extent of populations beyond the demonstration project target area that could benefit from such an intervention either in the project's state or across the country.

CRITERION CATEGORY II - EDUCATIONAL SIGNIFICANCE

CRITERION II-A Sufficient evidence is provided that the proposed intervention has a reasonable probability of leading to the expected impact.

The proposed intervention and its expected impact should be described. The intervention should be directly related to the needs of the target population(s). Evidence of probable impact should be provided by such things as references to results from similar interventions.

CRITERION II-B Sufficient evidence is provided that the applicant is knowledgeable of the "present state of the art" for the proposed intervention.

Evidence should be provided that the project is based on appropriate and relevant literature. The applicant should demonstrate a working knowledge of what has been done, what is being done, and what is projected in the field. The review may include both published and unpublished works. The pertinent literature should be summarized. A rationale for the proposal and a description of the uniqueness of the intervention should be provided. Similar studies which have been undertaken in the recent past should be referenced. The applicant should also provide evidence that a similar demonstration project is not presently being funded in the state or has not been in the recent past.

CRITERION II-C Sufficient evidence is provided that the proposed intervention has educational significance beyond the demonstration site and can be implemented in other locations with reasonable expectations of comparable impact.

Evidence should be provided that the proposed intervention clearly defines and focuses on a problem of major importance including its expected contribution or potential impact. In addition, the transportability and potential project practices and products should be addressed with respect to their possible application in other programs or geographical areas.

CRITERION CATEGORY III - PROJECT OBJECTIVES AND ACTIVITIES

CRITERION III-A The objectives address the stated needs.

The project objectives should relate to the population needs, should focus on the priority area, and should be consistent with the relevant literature.

CRITERION III-B The objectives are attainable.

The objectives should be realistic and capable of being achieved as outlined in the proposal.

CRITERION III-C The objectives are defined in measurable terms.

The objectives should be independent of one another and clearly stated in measurable terms. Where applicable, they should state who will exhibit the behavior, what the behavior will be (in observable terms), and what intervention will bring it about. The reader should be told how a person's behavior is expected to be shaped if exposed to the intervention. Reasonable expectations for the specified population should be addressed, especially regarding high risk populations such as the handicapped or disadvantaged.

CRITERION III-D The objectives are arranged in approximate order of importance with outcome objectives as primary. Outcome objectives should address the expected impact on the population to be served.

The objectives should be arranged, as nearly as possible, in a hierarchy of importance. Outcome objectives, which address the expected impact on the target population, should be the primary or highest level objectives in the hierarchy.

CRITERION III-E Activities are related to objectives and can be expected to result in attainment of the objectives.

A specific description should be provided of the activities proposed for each major step in the project. These activities should be specifically identified with the objective that they are designed to accomplish and should be expected to lead to the attainment of the objective.

CRITERION III-F Criteria for selecting participants are clearly described.

The procedures and criteria for selecting project participants and comparison groups (for program evaluation) should be stated. In addition, provisions for assuring non-discrimination should be discussed.

CRITERION III-G Plans are outlined for including potential users in the development of project practices and products.

Provisions should be made to include input from potential users during all phases of the project to ensure the usefulness and quality of the practices and products generated and to increase motivation to participate.

CRITERION III-H Procedures are outlined for increasing probability of program longevity or institutionalization.

Plans should include steps to be taken to ensure financial support of the program upon conclusion of the grant period, and methods for infusing it into the ongoing educational system.

CRITERION CATEGORY IV - STAFFING AND FACILITIES

CRITERION IV-A Proposed personnel, consultants, subcontractors, and advisory group members have the necessary qualifications for the project.

The proposed staff should possess the qualifications, competencies, and experience appropriate to their assigned tasks. Proposed consultants, subcontractors, or advisory committee members should be specified. How they were selected and why they are qualified and appropriate to the goals of the project should be included.

CRITERION IV-B The project director has management capabilities as well as subject matter expertise.

The project director should have the necessary qualifications for managing the day-to-day operations of the project so that the objectives will be met within the time frame and budget proposed. In addition, he/she should demonstrate an expertise in the proposed intervention.

CRITERION IV-C Amount of time to be committed to the project by each individual is sufficient to carry out the proposed activities.

The proposal should specify the percentage of time to be assigned to the project by each staff member and clearly show that it is sufficient to ensure completion of all project tasks. If an advisory committee, volunteers, or other individuals will be participating in the project, assurances should be provided that these persons have both the time and the commitment to fulfill their responsibilities as outlined in the proposal.

CRITERION IV-D Provisions are made for adequate support and training of project personnel, teachers, and others, where applicable.

The support and training that will be provided for project personnel, teachers, and others who participate in the project should be specified in the proposal. This includes such things as inservice training, professional guidance, and additional compensation or time off for participating.

CRITERION IV-E Location(s), facilities, equipment, and materials are appropriate for the project.

Reasonable evidence should be provided that location(s), facilities, equipment and materials for the project are both appropriate and adequate. The location of project activities should be identified and reasons given for its selection. Any cooperative arrangements regarding facilities should be specified. A description and justification should be provided for equipment and materials needed for the project, especially if they are required for special needs. Provisions should be made for access to facilities by the handicapped.

CRITERION CATEGORY V - MANAGEMENT PLAN

CRITERION V-A The proposal specifies a plan for the management of the project which includes relationships among the involved organizations and individuals, and responsibilities of each.

The plan should address the manner in which the project will be organized and managed to accomplish the objectives set forth in the proposal. Methods for controlling operations and procedures for review and quality control of work should be stated. The plan should also include: (1) the organizational structure of the project team; (2) written position descriptions which differentiate staff members' roles and responsibilities; (3) a personloading chart which illustrates the level of effort devoted to each task by the various project staff members; (4) a description of the relationship of the project team to the grantee and the funding agency; and (5) a description of the relationship of the project team to other individuals and organizations who will be involved with the project including consultants, subcontractors, and advisory committee members.

CRITERION V-B The management plan relates to the project objectives and activities.

The plan should provide a direct relationship between the management procedures, implementation of project activities, and the attainment of project objectives.

CRITERION V-C A realistic time schedule for starting and completing each of the project activities is provided.

The time schedule should be realistic and attainable even though it may be somewhat tentative. Step by step procedures with starting and ending dates should be clearly diagrammed for each project activity in the form of a Gantt chart, PERT flowchart, or other diagramming mechanism.

CRITERION V-D The project schedule allows sufficient time and effort for planning and start-up.

All necessary elements for project implementation should be carefully planned and in a state of readiness before delivery of services begins. This includes: (1) the hiring and training of staff; (2) acquisition of adequate facilities and supplies; (3) establishment of a recordkeeping system; (4) establishment of an accounting system; (5) provisions for collecting baseline data for the formative and summative evaluations; (6) establishment of relationships with cooperating individuals and organizations; and (7) establishment of criteria and methods for choosing project participants and comparison groups (where applicable).

CRITERION V-E An appropriate recordkeeping system for project management is proposed.

Plans for an efficient and well-integrated recordkeeping system should be outlined so that all necessary information is documented. Plans may include the design of new forms, the use of computerized data systems, and production of reports.

CRITERION V-F The management plan addresses transitional activities required for the survival of the program or use of its products following conclusion of demonstration funding.

Activities required for the transition of the program from grant funding to incorporation into the ongoing educational system should be outlined. The plan should address such things as: (1) acquisition of alternative financial support; (2) establishment of liaisons necessary for transition; (3) any necessary reallocation of project personnel, facilities, equipment, and/or materials; and (4) relocation of records, if necessary.

CRITERION V-G Total project costs are reasonable in relation to size, scope, duration, and anticipated results of the project.

Budget figures should be reasonable and realistic for the scope of the project. The budget should be adequately presented and the expenditures justified as they relate to the proposed objectives and outcomes.

CRITERION V-H Budget line items are appropriate for carrying out project activities.

The proposed expenditures for each activity should be appropriate and adequate for the activity and the contribution the activity makes to the total project.

CRITERION V-I The proposal provides a plan for the documentation of costs to facilitate replication by potential adopters.

Plans should be made to maintain cost data so that reports can be made by per pupil and total activity costs.

CRITERION CATEGORY VI - EVALUATION

CRITERION VI-A The proposal includes a preliminary plan for the formative evaluation of the project.

Provisions should be made in the proposal for using formative evaluation as a management tool. The proposed formative evaluation plan should establish parameters for reliably relating processes to outcomes so that procedures can be refined and replicated.

CRITERION VI-B A preliminary plan for an appropriate recordkeeping system for the formative evaluation is outlined which documents project processes and effects.

Plans for establishing a recordkeeping system for formative data should be outlined. Formative data should be systematically and efficiently collected and recorded so that it is easily accessible, interpretable, and usable.

CRITERION VI-C The proposal provides a preliminary plan which establishes the parameters for a technically sound summative evaluation including appropriate preparation for followup.

Provisions should be made for adequate evaluation of the effectiveness of the project and for determining the extent to which objectives are met. The evaluation design should include the collection of outcome data and provisions for the collection of followup data approximately one to two years following completion of the grant period. Even though the demonstration project evaluator may not be responsible for the collection of the followup data.

CRITERION VI-D The proposal includes a preliminary plan for a recordkeeping system for documentation of results and identification of participants for collection of followup data.

Plans for establishing a recordkeeping system for the summative data should be outlined. Outcome data should be systematically and efficiently collected and recorded so that it is easily accessible, interpretable, and useable. Records should include the evaluation methodology, criteria for the selection of project participants and comparison group members (if any) for the followup, baseline data, pretest/posttest, and other relevant data for judging project effectiveness. Tentative dates when data will be available should be specified.

CRITERION CATEGORY VII - COMMITMENT OF APPLICANT ORGANIZATION

CRITERION VII-A The proposal includes a written statement from the applicant organization and cooperating institutions which specifies the type and amount of support they will provide to the project.

The type and amount of support the applicant organization and cooperating institutions will provide to the project should be specified in writing. In addition, conscious and overt support throughout the applicant organization management should be indicated.

CRITERION VII-B The proposal includes a written statement from the applicant organization which provides evidence of commitment to future funding and/or use of project generated products and practices after the conclusion of the grant period.

A commitment of future funding and/or the planned use of project generated practices and products should be provided by the applicant organization in writing in the proposal.

CRITERION CATEGORY VIII - DISSEMINATION PLAN

CRITERION VIII-A Dissemination of information to encourage utilization of the developed practices and products is a project objective.

Dissemination of information about the project which encourages others to adopt the program in their own setting should be stated as a measurable project objective.

CRITERION VIII-B The proposal includes a dissemination plan which identifies procedures, target audiences, and source(s) of funding for demonstrations and dissemination.

The dissemination plan should identify potential users of the project practices and products, and enumerate the dissemination strategies that will be targeted to the various users audiences. Source(s) of funding and a plan for keeping adequate records of potential adopters for followup purposes should be specified.

CRITERION VIII-C The dissemination plan provides for the demonstration of exemplary features of the program during the last phase of the grant period.

The dissemination plan should include provisions for exhibiting the demonstration project in its own setting to allow potential users to observe it in operation, examine evidence of its effectiveness, and judge its potential use in their own educational setting.

CRITERION VIII-D The dissemination plan should include an outreach approach and a combination of informative-awareness activities such as newsletters, seminars, conferences, etc. which will be useful to potential adopters in deciding whether or not to replicate the program.

Dissemination activities should reach out and employ information saturation strategies to heighten the awareness of potential new users rather than simply relying on others to respond to the demonstration project. The dissemination literature should be attractive, but not necessarily expensive, and include the kinds of information that potential users need to make a decision about adoption. The literature should include, but not be limited to, project objectives; description of target audience(s); program operations and services delivered; expected project effects; staffing requirements including position descriptions and qualifications necessary for filling these positions; training requirements for staff, teachers, and others; required facilities; required materials; and expected operating costs and per pupil costs.

CRITERION VIII-E The dissemination plan should provide for implementation support to new users.

The dissemination plan should provide for training and technical assistance to meet the needs of different persons.

APPENDIX C
BIBLIOGRAPHY

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APPENDIX C

BIBLIOGRAPHY

1. PLANNING

BREGMAN, R. A model for planning vocational education at the local level. Columbus, Ohio (43210): The National Center for Vocational Education, The Ohio State University, 1979.

GLENNAN, T.K., HEDERMAN, W.F., Et.Al. The role of demonstrations in federal R&D policy. Santa Monica, CA (90406): Rand Corp., May, 1978.

KAUFMAN, Roger. Needs assessment: concept and application. Englewood Cliffs, N.J.: Educational Technical Publications, Inc., 1979.

McCAGE, R.D. Managing program improvement: one state's approach. Columbus, Ohio (43210): The National Center for Vocational Education. The Ohio State University, 1980.

RIVLIN, A.M. Systematic thinking for social action. Washington, D.C., Brookings Institute, 1971.

ROSENAU, F.S., and McIntyre, D.H. Packaging your educational program. San Francisco: Far West Laboratory (In Press).

SHUY, R.W. How can we assess innovative structures and programs? 1976. (ERIC No. ED 119 502).

The status of education research and development in the United States: 1976 data book. Washington, D.C.: National Institute of Education, 1976.

2. PROPOSAL WRITING

NEARINE, R. Grantsmanship guidelines: some brief hints for effective proposal writing. CEDR Quarterly, 1978 (Spring), 7-9.

3. PROJECT MANAGEMENT

BINA, J.V. & HULL, W.L. Organizing and conducting demonstration projects in vocational education. Columbus, Ohio (43210): The National Center for Vocational Education, The Ohio State University. (ERIC No. ED 138 813).

HEYEL, C. (Ed.). The encyclopedia of management. New York: Van Nostrand Reinhold Co., 1973.

HULL, W.L. & McCASLIN, N.L. Career education implementation: a handbook for strategy development. Columbus, Ohio (43210): The National Center for Vocational Education, The Ohio State University, December, 1977.

MAYNARD, H.B. (Ed.). Handbook of business administration. New York: McGraw-Hill, 1970.

RANDOLPH, M. Planagement: moving concept into reality. New York: AMACOM, a Division of American Management Association, 1975.

SILVERMAN, M. Project management. (Vol. 2). New York: John Wiley & Sons, 1976.

4. EVALUATION

ABRAMSON, T., TITTLE, C.K. & COHEN, L. The handbook of vocational education evaluation. Beverly Hills, California: Sage Publications, Inc., 1979.

ANDERSON, S.B., BALL, S., MURPHY, R.T. & ASSOCIATES. Encyclopedia of education evaluation. San Francisco, California: Jossey-Bass Publishers, 1975.

BERNSTEIN, I.N., (Ed.). Validity issues in evaluative research. Beverly Hills, California: Sage Publications, 1976.

BONNET, D. Consumer's guide to using external evaluation services in education. Washington, D.C.: Office of Career Education, Department of Education (In Press).

CAMPBELL, D.T. & STANLEY, J.C. Experimental and quasi-experimental designs for research. Chicago: Rand McNally, 1966.

CLARKSON, Q.D., NEUBURGER, W.F. & KOROLOFF, N. A system for establishing evaluation standards. CEDR Quarterly, 1977 (Spring), 17-19.

COOK, T.D. & CAMPBELL, D.T. The design and conduct of quasi-experimental and true experiment in field settings. In M.D. Dunnette (Ed.), Handbook of Industrial and Organizational Research. New York: Rand McNally, 1976.

COOK, T.D. & CAMPBELL, E.B. Quasi-experimentation: design and analysis issues for field settings. Chicago: Rand McNally, 1979.

COOK, T.D. & REICHARDT, C.S. (Eds.). Qualitative and quantitative methods in evaluation research. Beverly Hills, California: Sage Publications, 1978.

DARCY, R.L. Vocational education outcomes: perspectives for evaluation. Columbus, Ohio (43210): The National Center for Vocational Education, The Ohio State University, 1979.

DATTA, L.E. & PERLOFF, R. (Eds.). Improving evaluations. Beverly Hills, California: Sage Publications, 1979.

FRANCHAK, S.J. & SIRER, J.E. Evaluation Handbook. Vol. 1 Guidelines and practices for follow-up studies of former vocational education students, 1978. Vol. 2 Guidelines and practices for follow-up studies of special populations, 1979. Columbus, Ohio (43210): The National Center for Vocational Education, The Ohio State University.

GLASS, G.V. & BRACHT, G.H. The external validity of experiments. American Educational Research Journal, 1968, 5(4), 436-474.

GOODMAN, L.A. Analyzing qualitative/categorical data: log-linear models and latent-structure analysis. Cambridge, Massachusetts: Abt Books, 1978.

Innovations evaluation guide. Columbus, Ohio (43210): The National Center for Vocational Education, The Ohio State University, 1972.

ISAAC, S. & MICHAEL, W.B. Handbook in research and evaluation. San Diego, California: Robert R. Knapp Publisher, 1971.

JEMELKA, R.P., & BORICH, G.D. Traditional and emerging definitions of educational evaluation. Evaluation Quarterly, 1979, 3(2), 263-276.

McKILLIP, J. Impact evaluation of service programs: three flexible designs. Evaluation Quarterly, 1979, 3(1), 97-104.

MORRIS, L.L. (Ed.). Program evaluation kit. Beverly Hills: Sage Publications, Inc., 1978.

O'HANLON, J. & MORTESEN, L.L. Improving teacher evaluation. CEDR Quarterly, 1977 (Winter), 3-7.

POPHAM, W.J. Educational evaluation. Englewood, New Jersey: Prentice-Hall, 1975.

POWERS, D.E. & ALDERMAN, D.L. Practical techniques for implementing true experimental designs. Evaluation Quarterly, 1979, 3(1), 89-96.

ROSS, J.A., Decision rules in program evaluation. Evaluation Review, 1980, 4(1), 59-74.

STEVENSON, W.W. Vocational education evaluation: problems, alternatives, recommendations. Columbus, Ohio (43210): The National Center for Vocational Education, The Ohio State University, 1979.

SUCHMAN, E.A. Evaluative research. New York: Russell Sage Foundation, 1967.

SUDMAN, S. Applied sampling. New York: Academic Press, Inc., 1976.

TALLMADGE, G.K. The Joint Dissemination Review Panel Ideabook. Washington, D.C.: U.S. Government Printing Office, 1977.

VAN DALEN, D.B. Understanding educational research: an introduction (3rd ed.). New York: McGraw-Hill Book Company, 1973.

WEBB, E., CAMPBELL, D.T., SCHWARTZ, R.D. & SECHST, L. Unobstrusive measures. Chicago: Rand McNally College Publishing Co., 1966.

YOUNG, M.B. & SCHUH, R.G. Evaluaton and educational decision-making: a functional guide to evaluating career education. Washington, D.C.: U.S. Government Printing Office, 1975.

5. DISSEMINATION

CLARK, D.L. and GUBA, E.G. An examination of potential change roles in education. Paper presented at the Seminar on Innovation in Planning School Curricula, National Education Association, Washington, D.C., October 1965.

NDN: a success story. Concord, New Hampshire (03301): LEA Associates, 80 South Main.

ROGERS, E.M. Diffusion of innovations. New York: The Free Press, 1962.

SOCIAL SCIENCE EDUCATIONAL CONSORTIUM. National seminar on the diffusion of new instructional materials and practices, General observations. Conference Proceedings of the National Seminar on the Diffusion of New Instructional Materials and Practices, Boulder, Colorado, June 1-3, 1973.